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PROVE-OUT RAM ASSESSMENT REPORT FOR THE 155 MM M483 LAP LINE AT KANSAS ARMY AMMUNITION PLANT

J. CRAIG ALLEN
JOHN G. MARDON

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20. Abstract (continued)

November 1977, another prove-out test was initiated; the test ended on 30 December 1977. The results of this test showed that the equipment satisfies test requirements and is capable of meeting a mobilization rate of 42,000 rounds per month. This report provides the details of the reliability, availability, maintainability (RAM), and production data analyses upon which this conclusion is based.

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INTRODUCTION

This report was prepared to provide an independent assessment of the system performance and capability during the production period, 15 November 1977 to 30 December 1977, at the request of the Office of the Project Manager for Production Base Modernization (PBM). The intent of this report is to document equipment performance in terms of RAM characteristics during the prove-out test. It is apparent from the RAM data that a significant improvement in equipment performance has occurred since the initial assessment of this line during the October 1976 to March 1977 time frame. This performance growth is primarily attributed to equipment design modifications and production experience.

In addition, this report identifies areas of equipment deficiency and recommends improvements to increase efficiency which should be implemented prior to future procurements of similar equipment. It also presents quantitative estimates of equipment RAM characteristics resulting from a computerized RAM data analysis. For those who must make a decision as to acceptance/rejection/redesign or duplication of this line, this report serves as an additional source of information.

Appendixes A and B provide the information and data on which the conclusions and recommendations are based.

TEST OBJECTIVE

The objective of the prove-out test was to demonstrate that the equipment system is capable of:

1. Producing an acceptable product, the M483 projectile, in accordance with the applicable military specification, MIL-P-48749.
2. Producing the product at the mobilization (MOB) rate, 42,000 rounds per month on a 500-hour basis.

For the automated line to satisfactorily pass the test, it had to demonstrate that it could produce at the sustained rate of 42,000 rounds/mo. On a per-shift basis this is equivalent to:

$$\frac{42,000 \text{ round/month}}{\frac{500 \text{ hr/month}}{8 \text{ hr/shift}}} = 672 \text{ rounds/shift}$$

EQUIPMENT TEST REQUIREMENTS

To satisfactorily pass the test, each type of equipment had to demonstrate that it could produce an acceptable product at its specified design rate during the scheduled production time of 400 minutes per day for 5 days. The design rates for the various types of equipment are:

Adapter hardness verification	- 90 parts/min
Grenade hardness verification	- 90 parts/min
Grenade body loader system	- 90 parts/min
Fuze assembly system	- 30 parts/min
Final assembly/pack-out	- 1.8 parts/min

The automated M483 LAP line at KAAP is comprised of the following number of each type of equipment:

<u>Type</u>	<u>Number of Machines</u>
Adapter hardness verification	1
Grenade hardness verification	3
Grenade body loader system	3
Fuze assembly system	10
Final assembly/pack-out	One line (serially arranged)

In order to meet the MOB rate requirement for the production line, the following minimum net shift rates for each system had to be observed during the test:

<u>Type</u>	<u>Minimum Net Rate</u>
Adapter hardness verification	5376 adapters/shift
Grenade hardness verification	59136 grenades/shift

Grenade body loader system	59136 grenades/shift
Fuze assembly system	59136 grenades/shift
Final assembly/pack-out	672 projectiles/shift

DEFINITIONS

The following definitions and assumptions were used in the data analysis of this system:

Equipment Stop Codes

- Code 0 - Start of Shift
- Code 1 - End of Shift
- Code 2 - Break/Lunch
- Code 3 - Unscheduled Stop (Failure)
- Code 4 - End of Test
- Code 5 - Preventive Maintenance
- Code 6 - Administrative Downtime

Outliers

- Code 7 - Outlying Data

One of these codes appears in column 15 on each computer data card required for the computer analysis. They are presented here because they provide a simple way of defining the terms used in this report.

$$\text{Scheduled Uptime} = \text{Total Shift Time} - \Sigma(\text{Code 2} + \text{Code 6} + \text{Code 7})$$

$$\text{Actual Uptime} = \text{Scheduled Uptime} - \Sigma(\text{Code 3} + \text{Code 5})$$

$$\text{Availability} = \text{Actual Uptime} / \text{Scheduled Uptime}$$

$$\text{MTBF} = \text{Mean-Time-Between-Failures}$$

$$\text{MTTR} = \text{Mean-Time-to-Repair (Mean Downtime)}$$

$$\text{Observed Rate} = \text{Quantity Produced} / \text{Actual Uptime}$$

$$\text{Net Rate} = (\text{Quantity Produced} - \text{Rejects}) / \text{Scheduled Uptime}$$

Variations noted in the scheduled uptimes are attributed to the system operating into or during breaks and lunch periods, early or late start-ups and maintenance running into break/lunch periods.

RESULTS OF PROVE-OUT TEST

RAM Summary

Overall estimates of RAM characteristics, for each production area based on the prove-out data, are provided in Table I-1. The last column of this table provides the estimates of availability for each system except hardness verification based on data gathered through March 1977 at KAAP. Substantial improvement in all areas is evident.

Table I-1. System RAM Summary.

	<u>No. Failures</u>	<u>MTTR</u>	<u>MTBF</u>	<u>Present Availability</u>	<u>March 1977 Availability</u>
Hardness verification	65	1.27	120.1	.990	N/A
Body loading	284	1.48	9.48	.865	.448
Fuze assembly	3176	0.71	3.51	.832	.476
Final assembly/ pack-out	75	1.23	499.5	.946	.862

Production Summary

Daily production of assembled grenades and packed out projectiles during the prove-out test is summarized in Table I-2. These results compare very favorably to the MOB requirements of 59136 grenades/shift and 672 projectiles/shift.

Expected Production Capability

Based upon the results of the prove-out test, it is anticipated that KAAP could produce in excess of the MOB rate of 42,000 projectiles per month on a 3/8/5 basis using all equipment and a scheduled uptime of 400 minutes per shift. The expected production quantities for loaded grenades, assembled grenades, and loaded projectiles can be calculated using the following formulas:

Grenade Loading and Fuze Assembly

$$\text{Prod Qty} = \frac{(\text{observed rate}) (\text{avail}) (\text{sched uptime}) (\text{no. machines})}{1 + \text{reject rate}}$$

Projectile Loading/Pack-Out

$$\text{Prod Qty} = \text{Net rate} \times \text{sched uptime}$$

Application of these formulas results in the following expected production quantities:

Grenade Loading

$$\text{Prod Qty} = \frac{(100.4) (0.865) (3) (400)}{1.006} = 103,594 \frac{\text{grenades}}{\text{shift}}$$

Grenade Assembly

$$\text{Prod Qty} = \frac{(27.5) (0.832) (10) (400)}{1.0056} = 91,010 \frac{\text{grenades}}{\text{shift}}$$

Projectile Loading/Pack-Out

$$\text{Prod Qty} = 1.90 \times 400 = \frac{\text{projectiles}}{\text{shift}}$$

In terms of the MOB rates, 42,000 projectiles per month is equivalent to:

$$\frac{42,000 \text{ proj/mon}}{62.5 \text{ shift/mon}} = 672 \text{ proj/shift}$$

$$\text{AND net rate} = \frac{672 \text{ proj/shift}}{400 \text{ min/shift}} = 1.68 \text{ proj/min}$$

The net rate demonstrated by KAAP during the test was 1.90 projectiles per minute. Therefore, even with the consequent reduced efficiency of multi-shift operation, KAAP would exceed the MOB rate if required to produce on a 3/8/5 basis.

TABLE I-2
PRODUCTION SUMMARY DURING PROVE-OUT
(11/15/77 THRU 12/30/77)

WEEK	ASSEMBLED GRENADES				PROJECTILES PACKED OUT			
	DAILY RESULTS				DAILY RESULTS			
11/15-11/18	-	63744	61796	67008	64012	-	760	660
11/28-12/2	75594	79296	55784	68076	62128	840	928	760
12/5-12/9	71559	53012	62976	68252	61824	744	760	760
12/12-12/16	67968	82048	79552	76608	75712	768	852	816
12/19-12/22	78208	68130	61888	56174	-	760	784	784
12/27-12/30	-	72384	75188	64256	51264	-	800	704
								800

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. Based upon the prove-out test results, Kansas AAP demonstrated that the 155 mm M483 LAP line is capable of meeting the mobilization rate if required to produce on a 3/8/5 shift schedule. These results indicate a substantial improvement in RAM and production performance over what was observed a year ago at KAAP. It is anticipated that further improvements will result from additional experience with operation of the production equipment.

2. The fuze assembly machines will show a significant increase in availability and production output if the fuze feed and replacement problem is corrected. They will also require less repetitive maintenance; this problem was responsible for 40% of the failures and represented 38% of the total system repair time and associated line maintenance costs.

3. The unwinding of fuze ribbons is a serious problem. Although it is not directly associated with a RAM problem, it does require considerable manpower to rewind these ribbons and, therefore, reduces the overall efficiency of the fuze assembly machine operation.

4. The hardness verification equipment performed as expected and demonstrated an availability of 99%.

5. The body-loading system experienced infeed nest jam problems with the ultrasonic cleaner, hung pallets in the powder feed system, infeed body assembly jams and upper cam jams in the pellet press, and cone jams in the cone swage area. These problems appear to have simple solutions since they do not involve complex material-handling equipment. Improvements in these areas would result in a significant increase in the system availability and production output.

6. The projectile loading/pack-out equipment experienced few problems during the prove-out test. However, since it is serially arranged, major problems could occur if a one-of-a-kind piece of equipment (e.g., torque test machine) experienced significant downtime on any given day. The performance of this line could be greatly improved by using parallel grenade stacking stations and providing for additional equipment which would be in parallel with the present equipment at the base plug torque station, zone weigh station, and leak test station.

Recommendations

1. Based upon results of the prove-out test, it is recommended that the line be accepted and transferred to ARRCOM.
2. Since the fuze feed and placement is a serious problem, improvement or redesign should be considered and implemented before procurement of similar equipment for follow-on projects.
3. The deficiencies encountered with the body loading equipment should also be corrected before procurement of similar equipment for follow-on projects.
4. While not a RAM problem, the unwinding of fuze ribbons does affect the overall efficiency and should be corrected. The following factors have an influence upon the ribbon's staying wound:
 - (1) Width of heat seal
 - (2) Rigidity of both the ribbon and tape stiffener
 - (3) Adjustment and speed of ribbon winders
5. Since the lead cup machines were not ready for testing at the time of the demonstration test, performance of these machines should be monitored and the data collected should be forwarded to ARRADCOM, ATTN: DRDAR-QAR, for evaluation.
6. The efficiency of the pack-out can be improved if parallel grenade stackers are used in place of the present series arrangement. This feature should be incorporated into similar follow-on LAP projects.
7. Since the data collection is a tedious process and a great deal of effort was spent putting the collected data into proper format, future data should be collected and recorded in accordance with format required for computerized RAM analysis (fig. II-1).
8. Results of this prove-out in terms of equipment performance should be used to generate RAM requirements and acceptance criteria for equipment to be procured for follow-on projects and also used as a basis for sizing similar facilities.
9. A RAM data base for equipment performance is currently being established and data from this prove-out will be included. Additional data on this line should be gathered periodically to expand the data base for the equipment making up this production line. A three day data-taking project should be planned by the Project Manager, PBM&E, to be implemented in August 1978 and December 1978 for RAM-growth tracking purposes.

APPENDIX A. DETAILED DISCUSSION OF RESULTS AND SYSTEM DESCRIPTION

I. INTRODUCTION

The following information provides the details of the RAM of the 155 mm M483A1 Automated Assembly and Pack-Out System and the production data analyses upon which the conclusions and recommendations are based.

II. DISCUSSION OF RESULTS

A. GENERAL

In order to facilitate analysis of RAM data collected during Prove-Out, the M483 LAP line at Kansas AAP was separated into four specific systems:

1. Adapter/Grenade Hardness Verification
2. Grenade Body Loading
3. Fuze Assembly
4. Final Assembly/Pack-Out

For each of these systems, with the exception of Final Assembly/Pack-Out, a set of failure codes was developed to streamline the RAM analysis. In addition to being necessary for performing an accurate RAM analysis, the failure code assignment was extremely useful in conducting the downtime and subsystem failure analyses aimed at pinpointing RAM problem areas.

In a preliminary review of the data it was discovered that certain failures which occurred exhibited repair times which were unusually long in comparison to repair times for other failures of the same code encountered for each specific system type. It was decided that a formal and consistent procedure would be used to exclude these outlying observations from further analysis. All applicable data were grouped according to failure code for each system. A data base consisting of RAM data recently gathered on similar equipment, in addition to the Kansas Prove-Out data, was used to compute a reasonable estimate of mean-time-to-repair (MTTR) and determine a frequency of failure for each failure code. A critical value based upon failure frequency was calculated for each failure code. The critical value for a particular failure code was based on the desire to remove observed times-to-repair which, under the assumed exponential repair distribution with mean equal to the estimated MTTR, had only a small probability of occurring. If an individual failure resulted in a time-to-repair greater than the critical value for its particular failure code, this failure

was removed from the data as a statistical outlier. These outlying observations were then eliminated from further consideration in analyzing the data. This process resulted in an analysis which more accurately measured equipment RAM performance by removing anomalies which are very likely operator/maintenance personnel dependent.

In the case of the Grenade Body Loading and Fuze Assembly systems, differences between machines of a given type in terms of availability and production capability were examined via statistical tests. The rationale and results of these tests are briefly discussed in the sections describing the RAM data analysis for each system provided below.

B. DATA ANALYSIS

1. ADAPTER/GRENADE HARDNESS VERIFICATION

a. General

This section summarizes the adapter/grenade body hardness verification equipment performance during the Prove-Out test. It included combined overall adapter/hardness verification system RAM characteristics and production performance, and a detailed downtime analysis to pinpoint frequent causes of failure. In order to facilitate the required analysis, a list of expected failure modes with associated codes was developed.

b. Failure Codes and Outlier Criteria

Table II-1 contains a list of the failure codes with their respective definitions. Table II-2 provides, for each failure code, its data base frequency of occurrence, its data base average repair time, and its critical value for determination of outliers. None of the 65 failures observed for hardness verification during Prove-Out required a repair time which exceeded these criteria so that no outliers were identified.

TABLE II-1 FAILURE CODES - HARDNESS VERIFICATION

<u>FAILURE CODE</u>	<u>FAILURE MODE</u>	<u>DEFINITION</u>
30	Miscellaneous problem	
31	Conveyor jam	Part jam occurs on conveyor
32	Body jam	Part jams in worm gear
33	Body overturned	Part falls on conveyor and causes jam
34	Body backup	Part jam occurs after test machine
35	Calibration drift	Good parts are rejected; machine requires recalibration
36	Tray up jam	Starwheel jams and causes machine to shut off
37	Traying	Electrical problem causes machine to shut off

TABLE II-2 HARDNESS VERIFICATION OUTLIER CRITERIA

CODE	FREQUENCY	MTTR	CRITICAL VALUE
30	3	5.3667	16.1000
31	84	1.3450	6.7252
32	65	0.8910	4.4552
33	17	0.7091	3.5453
34	1	0.2670	0.8010
35	6	4.8167	14.4500
36	2	0.3085	0.9255
37	2	14.9750	44.9250

c. RAM AND PRODUCTION PERFORMANCE

Combined overall and individual station RAM performance of the adapter/grenade hardness verification equipment is summarized in Table II-3. Each station consists of a conveyor, demagnetization coil, eddy current coil, and tray-up machine and is required to perform a relatively simple operation. One, therefore, would not expect many RAM problems to exist with this system and the results in Table II-3 bear this out. Of particular importance is the high overall system availability of .99 observed during Prove-Out.

The ability of the hardness verification equipment to meet production requirements is apparent when the production requirements of 5376 adapters per shift and 59136 grenades per shift are compared to the actual observed production quantities from the five shifts during which Prove-Out data was gathered. These quantities are provided in Table II-4. There was no evidence that the hardness verification equipment could not meet its design rate of 90 parts per minute. Situations in which the rate was observed to fall below this value were caused by grenades being manually fed to the conveyor rather than the actual capability of the equipment.

TABLE II-3 SUMMARY OF HARDNESS EQUIPMENT

MACHINE NO.	SCHED UPTIME	SCHED UPTIME	REPAIR TIME	NO. OF FAILURES	MTBF	MTTR	AVAIL
ADAPTER HARDNESS	1916.5	1911.2	5.3	14	136.5	0.38	0.997
BODY HARDNESS 1	2018.0	2016.1	1.9	4	504.0	0.48	0.999
BODY HARDNESS 2	1977.6	1960.6	17.0	15	130.7	1.13	0.991
BODY HARDNESS 3	1973.5	1915.4	58.1	32	59.9	1.82	0.970
OVERALL SYSTEM	7885.5	7803.2	82.3	65	120.0	1.27	0.990

TABLE II-4 ADAPTER/GRENADE HARDNESS VERIFICATION PRODUCTION DATA

	PRODUCTION QUANTITY				
	DAY #1	DAY #2	DAY #3	DAY #4	DAY #5
ADAPTER HARDNESS	29250	27400	26972	26050	30000
GRENADE HARDNESS	76800	76800	82944	79872	70656

DOWNTIME ANALYSIS

The data was grouped according to failure codes and analyzed to pinpoint equipment deficiencies which should be improved prior to future procurements of similar equipment. Table II-5 summarizes the downtime by failure code and machine and Table II-6 provides a summary of the downtime for each code. As evidenced by this data, this system does not appear to exhibit any significant RAM problems, being available 99% of the time.

TABLE II-5 DOWNTIME ANALYSIS OF HARDNESS EQUIPMENT

	CODE	FREQUENCY	TOTAL TIME	MTTR
ADAPTER HARDNESS	32	14	5.317	0.38
BODY HARDNESS NO. 1	-	1	0.317	0.317
	32	2	0.617	0.308
	35	1	1.000	1.000
BODY HARDNESS NO. 2	32	7	2.483	0.355
	33	4	1.617	0.404
	34	1	0.267	0.267
	35	1	12.000	12.000
	36	2	0.617	0.308
BODY HARDNESS NO. 3	32	21	13.283	0.633
	33	6	1.867	0.311
	35	3	13.000	4.333
	37	2	29.95	14.975

TABLE II-6 DOWNTIME SUMMARY OF HARDNESS EQUIPMENT

CODE	FREQUENCY	TOTAL DOWNTIME
-	1	0.317
32	44	21.70
33	10	3.484
34	1	0.267
35	5	26.000
36	2	0.617
37	2	29.950
TOTAL	65	82.335

2. GRENADE BODY LOADING SYSTEMS

a. GENERAL

Prove-Out test performance of KAAP body loading machines is summarized in this section. Included are combined overall estimates of body loading machine RAM characteristics and production rate, daily and overall estimates of RAM characteristics and production rates for individual machines, a detailed analysis of downtimes, a body loading machine subsystem RAM analysis, and a discussion of equipment RAM deficiencies and recommended corrective action. These analyses were facilitated by the assignment of failure codes to frequent and typical modes of failure. A list of definitions for the failure codes associated with the body loading machines is also provided in this section.

b. FAILURE CODES

The definitions of failure codes established for the grenade body loading systems are listed in Table II-7. The codes categorize common causes of body loading system failure and are listed under the corresponding subsystem with which they are associated.

c. REMOVAL OF OUTLIERS

Computed estimates of MTTR based on the available RAM data base and resultant critical values for each failure code are provided in Table II-8.

TABLE 11-7 FAILURE CODES - BODY LOADING

<u>CODE</u>	<u>DESCRIPTION</u>	<u>DEFINITION</u>
<u>UNTRAYING MACHINE</u>		
100	Miscellaneous Problem	Untraying
101	Tray Position	Tray improperly positioned to unload bodies
102	Tray Overrun	Tray hits limit switch and machine shuts off
103	Infeed Jam	Body jam during untraying
<u>CONE SYNTON</u>		
200	Miscellaneous Problem	Cone conveyor
201	Feed Rate	Cone synton feed rate requires adjustment
202	Cone Turned Over	Cone overturned in synton
203	Cone Jam	Cone jams exiting synton
<u>POWDER FEED SYSTEM</u>		
210	Hung Bucket	Powder bucket hangs up while feeding pellet press
211	No Powder	Conveyor brings pallet without powder bucket to pellet press
212	Hung Pallet	Conveyor system jams when called for powder
215	Miscellaneous Problem	Powder conveyor system
<u>ASSEMBLY MACHINE</u>		
300	Miscellaneous Problem	Assembly machine
301	Reject Part	Body will not fit on nest
302	Out Jam	Body and nest assembly jam on outfeed conveyor
303	Body Jam	Bodies jam entering assembly machine
304	Nest Jam	Nests jam entering assembly machine
305	No Nest	Nest not available for assembly
306	No body	Body not available for assembly
307	Limit Switch	Switch requires adjustment or replacement to keep machine operational
308	Lead Cup	Lead cup falls out of body and causes equipment hangup
<u>PELLET PRESS</u>		
400	Miscellaneous Problem	Pellet press
401	Part in Punch	Body sticks in punch after consolidation of powder
402	Upper Cam Jam	Upper punch fails to seat over body
403	High Punch	Punch fails to return to normal position
404	No Body	Body missing from nest
405	No Nest	Nest missing from body
406	Infeed Jam	Body assemblies jam entering press

TABLE II-7 CONTINUED

<u>CODE</u>	<u>DESCRIPTION</u>	<u>DEFINITION</u>
407	Out Jam	Body assemblies jam leaving press
408	High Charge	Maximum consolidation pressure - requires adjustment
409	Limit Switch	Switch requires adjustment or replacement to keep press operational
410	Powder Syntron	Powder hopper in press malfunctions, requires adjustment
411	No Powder	Body exits from press without powder

DISASSEMBLY MACHINE

500	Miscellaneous Problem	Disassembly machine
501	Low Part	Insufficient amount of powder in body
502	Nest Jam	Nest jam occurs after disassembly
503	Body Jam	Body jam occurs after disassembly
504	In Jam	Body assembly jams entering machine
505	Limit Switch	Switch requires adjustment or replacement to keep machine operational
506	No Nest	Body enters without nest - body removed
507	Starwheel Jam	Starwheels locks - requires adjustment

CONE SWAGE

600	Miscellaneous Problem	Cone swage
601	Cone in Punch	Cone sticks in punch during swaging
602	Upper Cam Jam	Upper punch fails to seat over body
603	Out Jam	Bodies jam on outfeed conveyor
604	Part in Punch	Swaged body sticks in punch
605	Cone Jam	Cone hangs up or overturns after entering swaging machine
606	Body Jam	Body jam occurs in swaging machine
607	High Punch	Punch Fails to retract
608	In Jam	Bodies jam prior to entering swaging machine
609	Limit Switch	Switch requires adjustment or replacement to keep machine operational

GAGING MACHINE

700	Miscellaneous Problem	Gaging machine
701	Reject Jam	Reject parts due to cone depth, jam leaving gaging machine
702	Out Jam	Acceptable parts jam on outfeed conveyor
703	Infeed Jam	Parts jam entering gaging machine
704	Limit Switch	Switch requires adjustment or replacement to keep machine operational

TABLE II-7 CONTINUED

<u>CODE</u>	<u>DESCRIPTION</u>	<u>DEFINITION</u>
<u>TRAYING MACHINE</u>		
800	Miscellaneous Problem	Traying
801	Tray Overrun	Tray hits limit switch and machine shuts off
802	Infeed Jam	Bodies jam entering tray
803	Tray Position	Tray improperly positioned to load bodies
<u>ULTRASONIC CLEANER</u>		
900	Miscellaneous Problem	Ultrasonic cleaner
901	Infeed Jam	Nests jam entering ultrasonic cleaner
902	Outfeed Jam	Nest caught in chain or sticks in outfeed track
903	Nest Shuttle	Shuttle fails to feed nests to ultrasonic clearer

TABLE II-8 BODY LOADING SYSTEM OUTLIER CRITERIA

FAILURE CODE	FREQUENCY	MTR	CRITICAL VALUE
100	2	3.1415	9.4245
101	1	3.0670	9.2010
103	9	1.9426	5.8277
200	6	4.2417	12.7250
201	14	1.5846	4.7539
202	40	.5804	2.9020
203	85	.8814	4.4069
210	88	4.1462	20.7310
211	33	4.3409	21.7047
212	25	3.8527	19.2634
215	13	7.5243	22.5729
300	6	9.3112	27.9335
301	169	.7526	5.2679
302	13	1.4487	4.3461
303	21	1.5643	7.8214
304	36	1.1667	5.8335
305	5	.8766	2.6298
307	20	1.5184	7.5918
308	9	1.9130	5.7390
400	10	16.2050	48.6150
401	91	1.8403	9.2015
402	20	6.1267	30.6333
404	8	2.1063	6.3188
405	14	2.0083	6.0249
406	19	3.8947	19.4737
407	12	.7125	2.1375
408	34	3.1456	15.7279
409	9	4.4240	13.2720
410	7	4.4810	13.4430
411	13	1.4859	4.4578
500	3	5.7277	17.1830
501	2	.9250	2.7750
502	27	2.0056	10.0278
503	21	4.3484	21.7419
504	15	1.3345	4.0034
505	8	5.4063	16.2188
506	2	.7835	2.3505
507	9	3.6222	10.8667
600	6	4.2140	12.6420
601	33	7.4192	37.0959
602	9	10.8000	32.4000
603	2	.9335	2.8005
604	24	1.7958	8.9792
605	102	.9799	4.8995

TABLE II-8 BODY LOADING SYSTEM OUTLIER CRITERIS - CONTINUED

FAILURE CODE	FREQUENCY	MTR	CRITICAL VALUE
606	5	1.1966	3.5898
608	5	1.1300	3.3900
609	5	2.5666	7.6998
700	5	1.4134	4.2402
701	3	.9557	2.8670
702	2	1.4835	4.4505
703	7	1.3737	4.1211
704	1	.9170	2.7510
800	1	2.8670	8.6010
801	1	.6170	1.8510
802	5	.8400	2.5200
803	1	1.0000	3.0000
900	9	11.5241	34.5723
901	80	1.4150	7.0750
902	197	1.4761	10.3330
903	46	1.3279	6.6396

Each repair time was compared to the critical value corresponding to the code of the failure being corrected. If the repair time was greater than the critical value, only then was it identified as an outlier and not considered in subsequent analyses. Out of the total of 288 stoppages which were considered equipment failures, only 4 were found to satisfy the outlying criteria and were deleted. These outliers are provided in Table II-9.

TABLE II-9 OUTLYING DATA FOR BODY LOADING SYSTEMS

DATE	TIME OF DAY	REPAIR TIME	MACHINE NO.	FAILURE CODE
111577	1125	7.467	1	901
111677	1400	35.000	1	402
111777	0817	67.233	3	900
111877	1136	7.233	3	901

In addition to these four outliers, 57 other machine stoppages originally scored as failures were deleted and not included in the following analyses. They included three (3) code 301 failures and fifty-four (54) code 902 failures. A code 301 failure is classified as a reject part because there is a defect in a particular body which prevents it from seating properly on the nest in the assembly machine. This in turn causes the machine to stop as a result of improper mating of the parts. The code 301 failures were deleted because it was considered inappropriate to penalize the equipment for failing when the problem is probably due to non-conforming parts (grenade bodies). The tight tolerances required for proper mating between nest and body would justify this conclusion. The code 902 stoppages reflected a recurring problem classified as an outfeed nest jam from the ultrasonic cleaner. The outfeed nest jam was caused by wet nests exiting from the ultrasonic cleaner. During the demonstrating test of body loader #3, it was noticed that the nests were not clean and contained traces of explosive as they exited from the ultrasonic cleaner. To correct this problem a new heater was installed in the freon bath on the third day of the test. The wet nest problem started at this time and continued to occur the following day of the RAM data collection. Since this problem was due to a problem of freon heating and did not occur prior to installation of a new heater, it was considered inappropriate to penalize the equipment in a manner which implied that more than one failure occurred. This problem was rectified after the completion of RAM data collection, and since it did not occur on similar body loading systems, it was decided to disregard the data generated by this problem in subsequent analyses.

d. RAM AND PRODUCTION PERFORMANCE

A summary of the RAM data, resulting estimates of RAM characteristics, and production data for the two body loaders observed during the KAAP prove-out is provided as Table II-10. This table also includes a presentation of the combined data and estimates for the two machines. Histograms of times-to-failure and times-to-repair based on the combined RAM data for both body loaders are provided in Figures II-A and II-B respectively.

Table II-11 provides a summary of the daily RAM performance on each of the body loaders. The table includes estimates of MTBF, MTTR, and availability, as well as the number of failures observed during each day.

The null hypothesis, that the two body loading machines are equivalent in terms of anticipated availability, was not rejected based on a statistical test using the limited daily availability data provided. Because of the large amount of scheduled uptime on each day in comparison to the observed MTBF and MTTR estimates, it was assumed that the distribution of daily availability estimates could be approximated very well by a normal distribution. This served as the basis for statistical tests employed.

Graphic portrayal of the variability in daily availabilities for the two body loading systems is provided in Figure II-C.

Daily production from each body loader is summarized in Table II-12. It can be seen from this table that the production requirement of 59136 grenades/shift was achieved on three out of the four days during which data was gathered. This was the case because Body Loader #1 production was sufficient to compensate for Body Loader #3 on two out of the three days #3 failed to contribute its share. When the entire production observed over the four day period is combined, it can be seen that on the average the requirement of 59136 grenades/shift is easily exceeded.

The data summarized in Table II-12 reflects another important fact. During each of the eight machine-shifts, the observed rate (total grenades processed ÷ actual uptime) exceeded the design rate requirement of 90 parts per minute. These results amplify the importance of achieving satisfactory levels of machine availability, since when the machines are operating they are capable of performing well in excess of established production requirements.

Finally, Table II-12 reflects the fact that the body loaders consistently operate at a reject rate substantially less than 1 per cent. These results imply that the effects of reject rate on production capability may be considered negligible for the body loading systems.

TABLE II-10 BODY LOADING SYSTEM RAM & PRODUCTION SUMMARY

MACHINE NO.	SCHED UPTIME	ACTUAL UPTIME	REPAIR TIME	MTBF	MTTR	AVAIL	NO. FAILURES	PRODUCTION QTY	REJECT QTY	OBSERVED RATE
1	1684.4	1480.9	203.5	8.92	1.23	.879	166	154051	759	104.0
3	1428.2	1210.2	218.0	10.26	1.85	.847	118	116020	860	95.9
COMBINED	3112.6	2691.1	421.5	9.48	1.48	.865	284	270071	1619	100.4

TABLE II-11 DAILY BODY LOADING MACHINE RAM RESULTS

MACHINE NO.	DAY #1			DAY #2			DAY #3			DAY #4		
	NO. FAILURES	MTBF	MTTR	NO. FAILURES	MTBF	MTTR	NO. FAILURES	MTBF	MTTR	NO. FAILURES	MTBF	MTTR
1	47	9.01	.96	41	8.84	1.41	40	8.74	1.29	38	9.09	1.29
3	26	17.03	1.08	26	11.29	2.06	37	5.70	1.72	29	9.08	1.51

TABLE II-12 BODY LOADING DAILY PRODUCTION

MACHINE NO.	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN
1	45000	317	106.2	37550	141	103.6	36100	172	103.3
3	44066	317	99.5	28287	195	96.4	19051	174	90.4

The daily observed net rate of production for each body loader is provided in Table II-13. These results offer a concise measure of machine capability, taking into simultaneous consideration production rate, RAM characteristics, and reject rate. Under the assumption that net rates follow an approximately normal distribution, the limited results in Table II-13 were used to compare the two body loading systems on the basis of net rate. Based on this statistical test the null hypothesis that the two systems are equivalent was not rejected at the .05 level of significance.

TABLE II-13 BODY LOADING SYSTEM NET RATES

MACHINE NO.	DAILY NET RATE (PARTS/MIN)				AVERAGE
	DAY #1	DAY #2	DAY #3	DAY #4	
1	95.3	89.0	89.6	89.5	91.0
3	92.9	80.9	68.8	72.7	80.6

e. DOWNTIME ANALYSIS

The RAM data gathered on the body loading systems during the Prove-Out test was analyzed by failure code on each machine separately and both machines combined. The primary purpose of this analysis was to highlight equipment RAM deficiencies so that improvements can be considered on present equipment and instituted for future procurements.

Tables II-14 and II-15 provide a breakdown of the failure data for each machine. A summary of downtimes, by type, is provided in Table II-16.

TABLE II-14 INDIVIDUAL BODY LOADING SYSTEM DOWNTIME

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
BODY LOADING STATION 1	146	203.533	1.226
100 UNTRAYING-MISC. PROBLEM	1	.650	.650
103 INFEED JAM	6	8.883	1.481
201 CONE SYNTRON FEED	1	2.317	2.317
202 CONE TURNED OVER	24	13.233	.551
203 CONE JAM	5	3.333	.667
210 HUNG RUCKET	6	2.933	.489
211 NO POWDER	8	19.350	2.419
212 HUNG PALLET	6	18.017	3.003
302 OUT JAM	1	.517	.517
303 BODY JAM	6	5.117	.853
304 NEST JAM	2	1.867	.933
307 LIMIT SWITCH	1	.317	.317
308 LEAD CUP	1	.467	.467
401 PART IN PUNCH	3	3.017	1.006
402 UPPER CAM JAM	2	4.517	2.258
406 INFEED JAM	2	3.517	1.758
407 OUT JAM	9	6.200	.689
408 POWDER CHARGE	1	2.000	2.000
409 LIMIT SWITCH	2	2.467	1.233
502 NEST JAM	5	7.550	1.510
503 BODY JAM	4	3.083	.771
504 INFEED JAM	5	5.567	1.113
507 STAR WHEEL JAM	1	7.683	7.683
600 CONE SWAGF-MISC. PROBLEM	1	.650	.650
601 CONE IN PUNCH	13	16.100	1.238
604 PART IN PUNCH	1	1.150	1.150
605 CONE JAM	19	24.067	1.267
606 BODY JAM	1	1.733	1.733
702 OUTJAM	1	.767	.767
803 TRAY POSITION	1	1.000	1.000
900 ULTRASONIC-MISC. PROBLEM	2	4.283	2.142
901 INFEED JAM	11	16.033	1.458
902 OUTFFFF JAM	14	15.150	1.082

TABLE II-15 INDIVIDUAL BODY LOADING SYSTEM DOWNTIME

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
BODY LOADING STATION 3	118	217.967	1.847
0 NON-CODED FAILURES	1	.400	.400
201 CONE SYNTRON FEED	2	1.917	.958
202 CONE TURNED OVER	15	9.600	.640
203 CONE JAM	9	9.017	1.002
210 HUNG BUCKET	8	8.083	1.010
212 HUNG PALLFT	4	22.800	5.700
303 BODY JAM	1	.850	.850
304 NEST JAM	5	3.117	.623
401 PART IN PUNCH	11	16.100	1.464
402 UPPER CAM JAM	3	25.933	8.644
405 NO NEST	1	2.150	2.150
406 INFEED JAM	7	33.983	4.855
407 OUT JAM	1	1.100	1.100
501 LOW PART	1	.650	.650
504 INFEED JAM	3	4.400	1.467
506 NO NEST	1	1.017	1.017
603 OUTJAM	1	1.017	1.017
604 PART IN PUNCH	6	10.567	1.761
608 INFEED JAM	2	1.967	.983
609 LIMIT SWITCH	1	2.433	2.433
900 ULTRASONIC-MISC. PROBLEM	2	5.433	2.717
901 INFEED JAM	30	43.050	1.435
902 OUTFFED JAM	3	12.383	4.128

DESCRIPTION	NON-CODED FAILURES	REPAIR TIME
LOST AIR PRESSURE		.40

TABLE II-16 BODY LOADING SYSTEM DOWNTIME SUMMARY

<u>CODE</u>	<u>FAILURE MODE</u>	<u>FREQUENCY</u>	<u>TIME</u>
0	NON-CODED FAILURES	1	.400
100	UNTRAYING-MISC. PROBLEM	1	.650
103	INFEED JAM	6	8.883
201	CONE SYNTRON FEED	3	4.234
202	CONE TURNED OVER	39	22.833
203	CONE JAM	14	12.350
210	HUNG BUCKET	14	11.016
211	NO POWDER	8	19.350
212	HUNG PALLET	10	40.817
302	OUT JAM	1	.517
303	BODY JAM	7	5.967
304	NEST JAM	7	4.984
307	LIMIT SWITCH	1	.317
308	LEAD CUP	1	.467
401	PART IN PUNCH	14	19.117
402	UPPER CAM JAM	5	30.450
405	NO NEST	1	2.150
406	INFEED JAM	9	37.500
407	OUT JAM	10	7.300
408	POWDER CHARGE	1	2.000
409	LIMIT SWITCH	2	2.467
501	LOW PART	1	.650
502	NEST JAM	5	7.550
503	BODY JAM	4	3.083
504	INFEED JAM	8	9.967
506	NO NEST	1	1.017
507	STAR WHEEL JAM	1	7.683
600	CONE SWAGE-MISC. PROBLEM	1	.650
601	CONE IN PUNCH	13	16.000
603	OUT JAM	1	1.017
604	PART IN PUNCH	7	11.717
605	CONE JAM	19	24.067
606	BODY JAM	1	1.733
608	INFEED JAM	2	1.967
609	LIMIT SWITCH	1	2.433
702	OUT JAM	1	.767
803	TRAY POSITION	1	1.000
900	ULTRASONIC-MISC. PROBLEM	4	9.716
901	INFEED JAM	41	59.083
902	OUTFEED JAM	17	27.533

TOTAL FAILURES = 284

TOTAL DOWNTIME = 421.50

These results indicate four problem areas common to both body loaders. They are broken out separately in Table II-17.

TABLE II-17 BODY LOADING RAM PROBLEM AREAS

FAILURE MODE	CODE	FREQUENCY	TOTAL DOWNTIME	% DOWNTIME
Cone Turned Over	202	39	22.8	5.4
Hung Pallet	212	10	40.8	9.7
Infeed Jam	901	41	59.1	14.0
Outfeed Jam	902	17	27.5	6.5
<hr/>				
Above Combined	-	107	150.2	35.6
All Combined	-	284	421.5	100.0

On the surface it appears that these problems are relatively simple and should require only minor design modification to solve. As an example, the Code 901 Infeed Jam problem could be virtually eliminated by utilizing the Nest Shuttle feed to the ultrasonic cleaner employed on the Body loading systems at Lone Star AAP. If sufficient design modifications are made to eliminate the problems summarized in Table II-17, a resultant increase in average body loading system availability from 86.5% to as much as 91% could be anticipated, with consequent improvement in production capability.

f. SUBSYSTEM RAM ANALYSIS

The Grenade Body Loading System is comprised of ten separate machines or subsystems. They are:

- (1) Untraying
- (2) Cone Feed
- (3) Powder Feed
- (4) Body/Nest Assembly
- (5) Pellet Press
- (6) Disassembly
- (7) Cone Swaging
- (8) Gaging
- (9) Traying
- (10) Ultrasonic Cleaning

Table II-18 contains RAM data and estimates by subsystem for each body loading system individually. The subsystem availabilities in this table and in Table II-19 were calculated according to the following:

$$\text{SUBSYSTEM UPTIME} = \text{TSU} - \Sigma (\text{OTHER SUBSYSTEM DOWNTIMES})$$

where TSU = Total Scheduled Uptime for System

$$\text{SUBSYSTEM AVAILABILITY} = \frac{\text{SUBSYSTEM UPTIME} - \text{SUBSYSTEM DOWNTIME}}{\text{SUBSYSTEM UPTIME}}$$

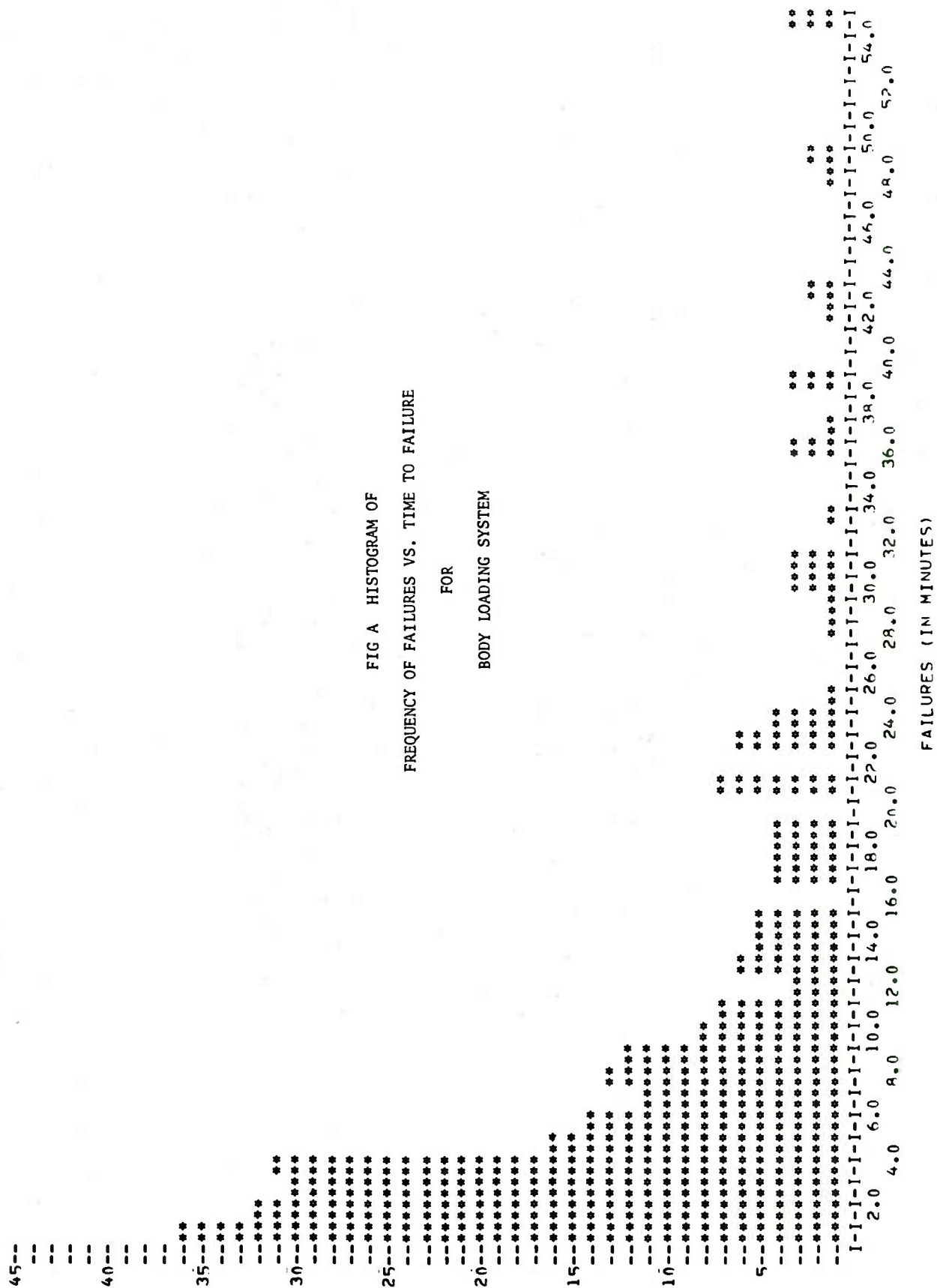
A graphical depiction of daily variability in subsystem availabilities is provided in Figure II-D for selected subsystems. Although the details are not provided herein, the daily subsystem availabilities were subjected to statistical tests of hypotheses to compare subsystems between body loading systems. No statistically significant differences were found. There is, therefore, no evidence to indicate that the overall RAM performance of a subsystem in one body loader differs from that of the similar subsystem in the other. As a result, the subsystem RAM data for body loading systems can be combined. The combined RAM data and estimates are provided in Table II-19. These results show that a total of 78% of the downtime observed on the body loading systems during Prove-Out is attributable to four subsystems: Powder Feed, Pellet Press, Cone Swage, and Ultrasonic Cleaner. The problems with the Ultrasonic Cleaner and Powder Feed subsystems have been addressed in the downtime analysis above. A substantial portion of the Pellet Press problem is associated with body assemblies jamming on entering the press (failure code 406). Cones hanging up or overturning after entering swaging machine (failure code 605) and swaged bodies sticking in punch (failure code 604) are the major problem with the Cone Swage subsystem. Significant improvement in body loading availability could be realized if these problems were reduced or eliminated.

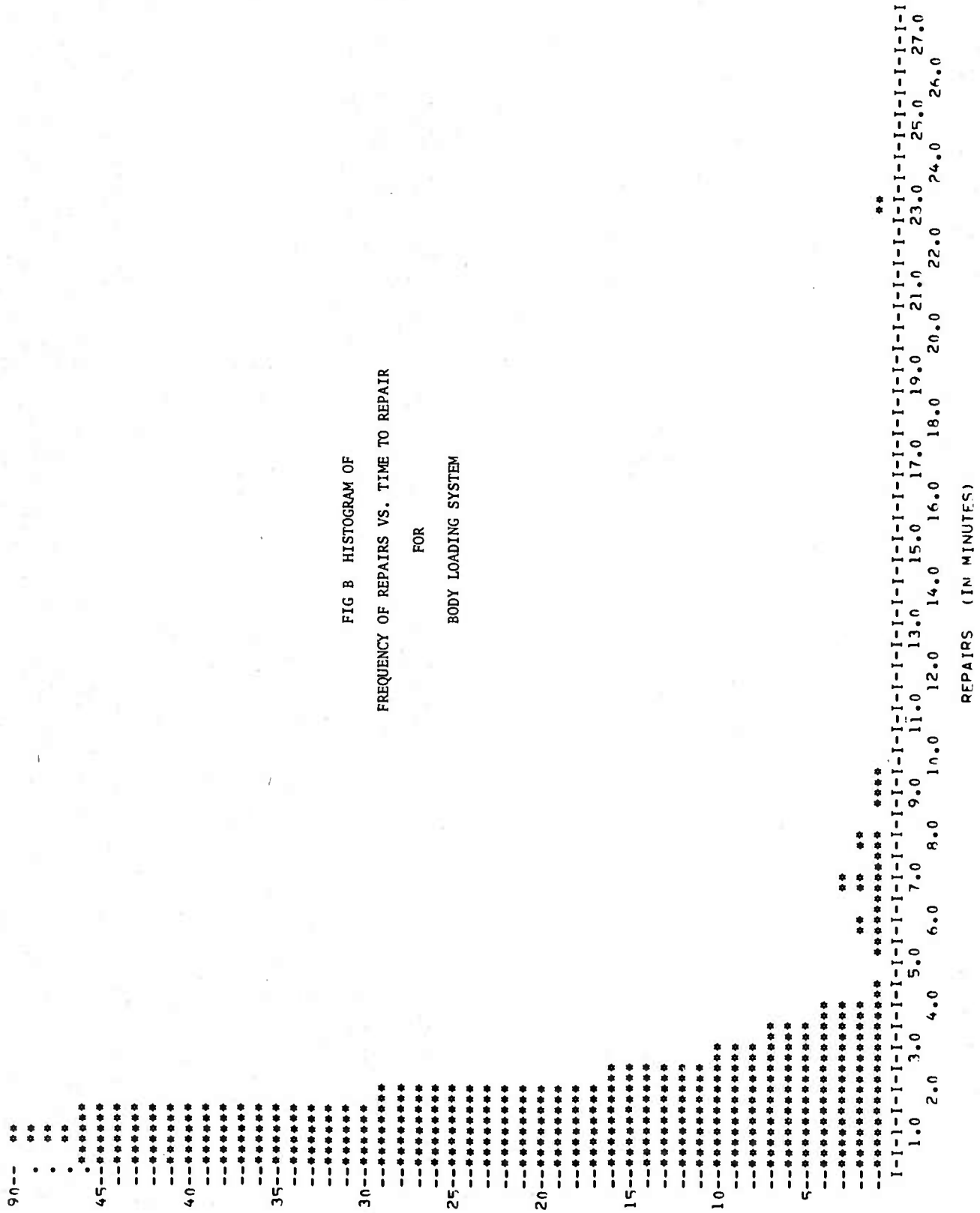
TABLE II-18 BODY LOADING SUBSYSTEM RAM RESULTS BY SYSTEM

STATION/SUBSYSTEM	FREQ	DOWNTIME	TOTAL TIME	% DOWNTIME	MTRR	MTBF	AVAIL
BODY LOADING STATION 1	166	203.5	1684.4	100.0	1.23	8.92	.8792
UNTRAYING	7	9.5	1490.4	4.7	1.36	211.55	.9936
CONE FEED	30	18.9	1499.7	9.3	.63	49.36	.9874
POWDER FEED	20	40.3	1521.1	19.8	2.02	74.04	.9735
ASSEMBLY	11	8.3	1489.1	4.1	.75	134.62	.9944
PELLET PRESS	19	21.7	1502.5	10.7	1.14	77.94	.9855
DISASSEMBLY	15	23.9	1504.7	11.7	1.59	98.72	.9841
CONE SWAGE	35	43.7	1524.5	21.5	1.25	42.31	.9713
GAUGING	1	.8	1481.6	.4	.77	1480.82	.9995
TRAYING	2	1.0	1481.8	.5	1.00	1480.82	.9993
ULTRASONIC	27	35.5	1516.3	17.4	1.31	54.85	.9766
BODY LOADING STATION 3	118	218.0	1428.2	100.0	1.85	10.26	.8474
NON-CODED FAILURES	1	.4	1210.7	.2	.40	1210.27	.9997
CONE FEED	26	20.5	1230.8	9.4	.79	46.55	.9833
POWDER FEED	12	30.9	1241.2	14.2	2.57	100.86	.9751
ASSEMBLY	6	4.0	1214.2	1.8	.66	201.71	.9967
PELLET PRESS	23	79.3	1289.5	36.4	3.45	52.62	.9385
DISASSEMBLY	5	6.1	1216.3	2.8	1.21	242.05	.9950
CONE SWAGE	10	16.0	1226.3	7.3	1.60	121.03	.9870
ULTRASONIC	35	60.9	1271.1	27.9	1.74	34.58	.9521

TABLE II-19 BODY LOADING SUBSYSTEM COMBINED RAM RESULTS

STATION/SUBSYSTEM	FREQ	DOWNTIME	TOTAL TIME	% DOWNTIME	MTTR	MTBF	AVAIL
OVERALL STATION	284	421.5	3112.6	100.0	1.48	9.48	.8646
NON-CODED FAILURES	1	.4	2691.5	.1	.40	2691.08	.9999
UNTRAYING	7	9.5	2700.6	2.3	1.36	384.44	.9965
CONE FEED	56	39.4	2730.5	9.4	.70	48.06	.9856
POWDER FEED	32	71.2	2762.3	16.9	2.22	84.10	.9742
ASSEMBLY	17	12.3	2703.3	2.9	.72	158.30	.9955
PELLET PRESS	42	101.0	2792.1	24.0	2.40	64.07	.9638
DISASSEMBLY	20	30.0	2721.0	7.1	1.50	134.55	.9890
CONE SWAGE	45	59.7	2750.8	14.2	1.33	59.80	.9783
GAUGING	1	.8	2691.9	.2	.77	2691.08	.9997
TRAYING	1	1.0	2692.1	.2	1.00	2691.08	.9996
ULTRASONIC	62	96.3	2787.4	22.9	1.55	43.40	.9654





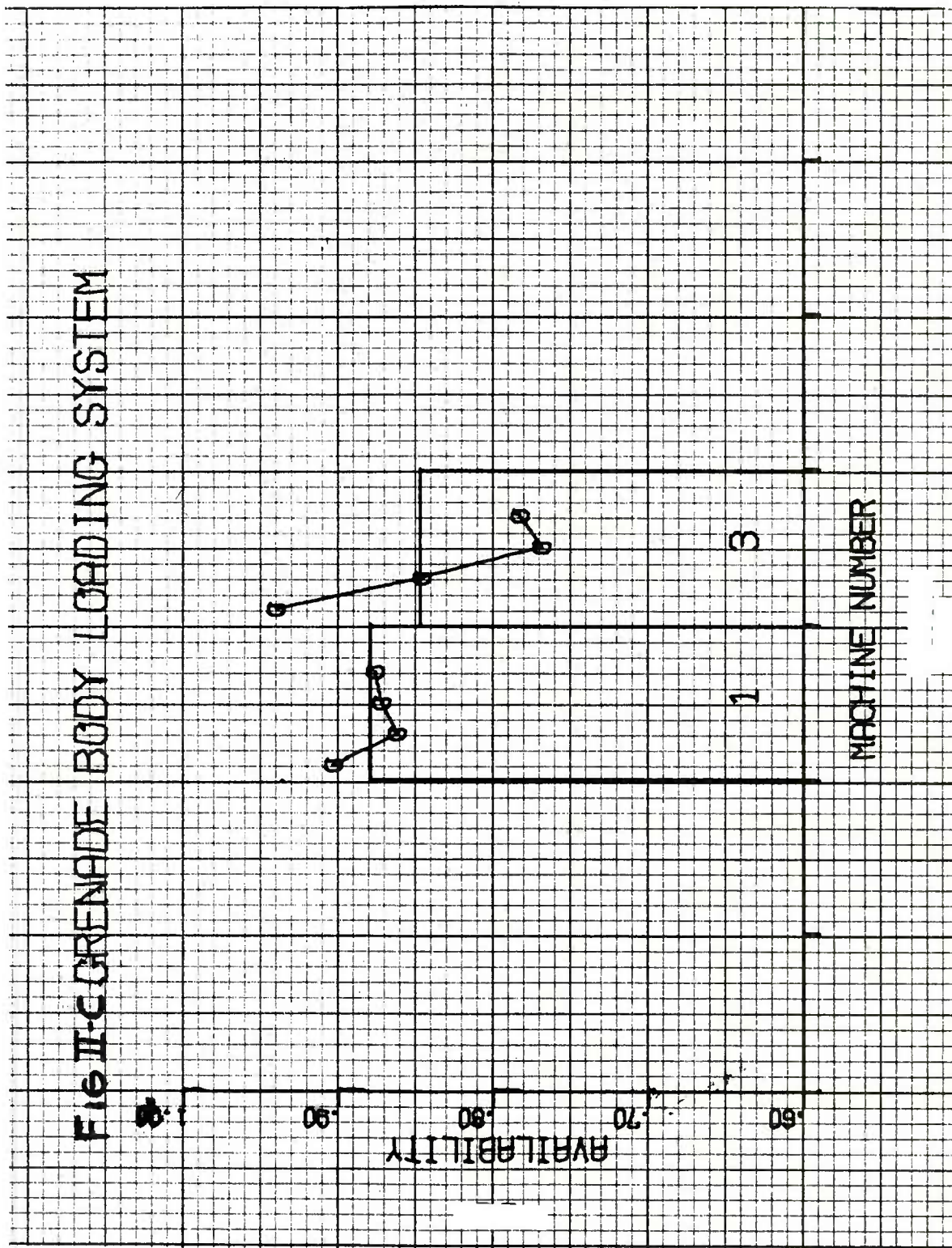
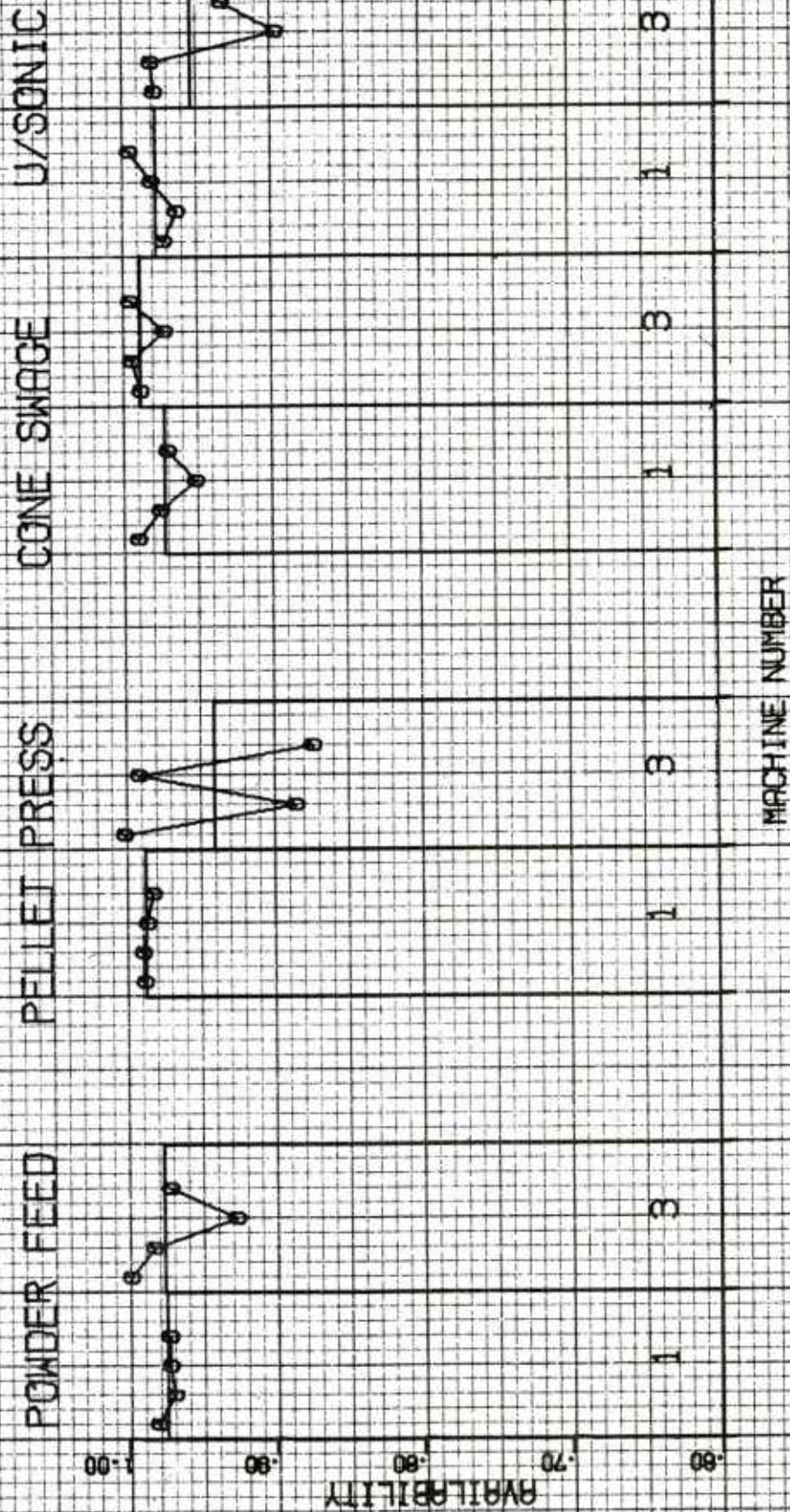


FIG. 1-D SUBSYSTEM AVAILABILITIES



3. FUZE ASSEMBLY SYSTEMS

a. GENERAL

Fuze assembly equipment performance during the Prove-Out test is summarized in this section. Included are combined overall estimates of fuze assembly machine RAM characteristics and production rates for individual machines, a detailed analysis of downtimes, a fuze assembly machine subsystem RAM analysis, and a discussion of equipment RAM deficiencies and recommended corrective action. These analyses were facilitated by the assignment of failure codes to frequent and typical modes of failure. A list of definitions for the failure codes associated with the fuze assembly machines is also provided in this section.

b. FAILURE CODES

The definitions of failure codes established for the fuze assembly systems are listed in Table II-20. The codes categorize common causes of body loading system failure. The failure code 0, not defined in Table II-20, but which will be encountered in subsequent sections, refers to all non-coded failures, the frequencies of occurrence of which were not anticipated to be high when the codes were defined.

TABLE II-20 FAILURE CODES - FUZE ASSEMBLY

<u>FAILURE CODE</u>	<u>FAILURE MODE</u>	<u>DEFINITION</u>
01	No Body	Body placing station fails to place body on pallet.
02	No Fuze	Fuze placing station fails to place fuze on body.
03	Tape Fixture Placing	Tape fixture missing from pallet.
04	Eject Fail	Grenade eject station fails to place grenade on outfeed conveyor.
05	Body Present	Check to insure grenade still on pallet after winding of ribbon.
06	Tape Conveyor Low	Insufficient quantity of tape fixtures - conveyor shut off.
07	Body Conveyor Low	Insufficient quantity of bodies on infeed conveyor.
08	Tape Conveyor Off	Drive motor off.
09	Fuze Conveyor Off	Drive motor off.
10	Tape Fixture Removal Fail	2nd check for removal of tape fixture.
11	Winder Slide	Tape winder slide fails to return to normal position - requires adjustment.
12	Fuze Jam	Fuze jams in feed track or placement jaws fail to pick up fuze.
13	Air Jog	Manual operation to index machine.
14	Fallen Grenade	Overtured grenade on outfeed conveyor.
15	No Fuze After Stake	Fuze missing after staking operation.
16	Fuze Stake Malfunction	Station fails to stake fuze to grenade.
17	Grenade In Chain	Grenade falls off pallet before eject station.
18	Tape Fixture Retract	Tape fixture not removed from pallet after ribbon staking.
19	Body Conveyor Off	Drive motor off.
20	Tape Rivet Down	Tape staking head fails to return to normal position.
21	Tape Stripper Down	Tape stripper fails to return to normal position.
22	Fuze Stripper Down	Fuze stripper fails to return to normal position.
23	Electrical Interlock	No fuze, on body or eject station fails to remove grenade.
24	Body Orientation	Studs not properly aligned to accept fuze, or body not seated on pallet.
25	Fuze Lifting Device	Lifting device fails to place fuzes into feed station.
26	Fuze Conveyor Low	Insufficient quantity of fuzes in feed system.
27	Grenade Jam	Grenade jam on outfeed conveyor.
28	Tray-Untray Malfunction	Jam at traying station.
29	Body Pallet Problem	Nest damaged and grenade will not seat properly.

c. REMOVAL OF OUTLIERS

Computed estimates of MTTR and frequency of failure based on the available RAM data base for fuze assembly equipment and resultant critical values for each failure code are provided in Table II-21. The critical values provided are the basis upon which outlying repair data is identified.

TABLE II-21 FUZE ASSEMBLY SYSTEM OUTLIER CRITERIA

FAILURE CODE	FREQUENCY	MTTR	CRITICAL VALUE
1	570	.6093	4.2649
2	1524	.8214	5.7501
3	150	1.1059	5.5294
4	36	1.5176	7.5879
5	154	1.0096	7.0674
6	102	.4993	2.4967
7	92	.8092	4.0463
8	9	1.2593	3.7780
9	18	4.8852	24.4261
10	23	1.0957	5.4785
11	303	2.1117	14.7820
12	1291	1.4055	9.8385
13	15	1.7233	5.1700
14	268	.6086	4.2605
15	44	1.9655	9.8277
16	57	7.0465	35.2325
17	108	.9004	4.5022
18	796	.9499	6.6496
19	9	1.5259	4.5777
20	24	8.2569	41.2846
21	21	4.8150	24.0752
22	4	3.3000	9.9000
23	28	1.2470	6.2352
24	1145	.4402	3.0814
25	139	2.0781	10.3903
26	7	.5786	1.7357
27	232	.3325	2.3278
28	42	2.7591	13.7956
29	55	3.6500	18.2499

Each repair time was compared to the critical value corresponding to the code of the failure being corrected. If the repair time was greater than the critical value, only then was it identified as an outlier and not considered in subsequent analyses. Out of the total of 3213 stoppages which were considered equipment failures, only 29 repair times were found to satisfy the outlying criteria and were deleted. These outliers are provided in Table II-22.

TABLE II-22 OUTLYING DATA FOR FUZE ASSEMBLY SYSTEM

DATE	TIME OF DAY	REPAIR TIME	MACH NO.	FAILURE CODE
121577	0913	15.200	1	3
121577	1051	20.250	1	11
121577	1138	22.000	1	11
121677	1420	24.000	1	11
121477	1518	4.133	2	24
112977	0827	12.100	5	3
113077	1034	7.400	5	18
113077	1048	6.800	5	18
113077	1320	9.283	5	3
113077	1510	16.050	5	17
120177	0809	5.833	5	3
120277	0930	30.400	5	29
120277	1245	57.583	5	16
120877	1516	5.217	4	24
120977	1257	3.717	4	24
120977	1443	6.100	4	24
112877	1053	67.000	6	18
112877	1452	41.400	6	21
113077	0850	3.633	6	24
113077	1059	7.933	6	2
120177	1506	15.000	6	12
111677	1232	4.283	8	14
111677	1425	23.433	8	11
111777	0907	6.000	8	24
111877	0859	4.667	8	1
111677	0858	14.800	9	12
111677	1255	13.400	9	12
111777	0823	3.250	9	24
111877	1031	38.683	9	25

In addition to the outliers listed in Table II-22, 8 other stoppages originally scored as failures were deleted. Each of them was a non-coded (code 0) failure. These stoppages involved failures of machine components known to have relatively high reliability in terms of mean-time-between-failure. Inclusion of this data in subsequent analyses would have resulted in unrealistically low estimates of total RAM performance for the fuze assembly machines. The data relating to these downtimes is provided in Table II-22A.

TABLE II-22A FURTHER DATA DELETIONS FOR FUZE ASSEMBLY SYSTEM

DATE	TIME OF DAY	REPAIR TIME	MACHINE NO.	FAILURE DESCRIPTION
120977	0928	32.00	3	OVERLOAD MAIN DRIVE MOTOR
120977	1015	70.00	3	OVERLOAD MAIN DRIVE MOTOR
120577	0818	31.07	4	OVERLOAD TAPE FIXTURE CONVEYOR
120177	1338	19.00	5	BROKEN TAPE FIXTURE AND NEST
111777	1252	68.00	9	REPAIR AND REPLACE CLUTCH
111777	1415	105.00	9	REPAIR AND REPLACE CLUTCH
111777	1615	67.00	9	BROKEN AIR LINES - CLUTCH

d. RAM AND PRODUCTION PERFORMANCE

A summary of the RAM data, resulting estimates of RAM characteristics, and production data for the eight fuze assembly systems observed during the KAAP Prove-Out is provided in Table II-23. This table also includes a presentation of the combined data and estimates for the eight machines. Histograms of times-to-failure and times-to-repair based on the combined RAM data for all fuze assembly machines are provided in Figures II-E and II-F, respectively. Table II-24 provides a summary of the daily RAM performance for each of the fuze assembly machines. The table includes estimates of MTBF, MTTR, and availability, as well as the number of failures observed during each day.

The null hypothesis, that all eight fuze assembly machines are equivalent in terms of anticipated availability, was rejected using a one-way analysis of variance at the .05 level of significance. As with the body loaders, daily availability estimates were assumed to follow a normal distribution. A standard statistical multiple comparison test was then applied to the average daily availabilities of the eight machines to characterize this difference.

The results of this test indicated that, while seven of the eight machines were statistically equivalent in terms of availability, the extremely good RAM performance of fuze assembly machine #2, in comparison, was enough to cause rejection of the null hypothesis. Graphical evidence of this conclusion is provided in Figure II-G.

TABLE II-23 FUZE ASSEMBLY MACHINE DATA

MACHINE NO.	SCHED UPTIME	ACTUAL UPTIME	REPAIR TIME	MTBF	MTR	AVAIL	NO. FAILURE	PRODUCTION QTY	REJECT QTY	OBSERVED RATE (PPM)
1	1953.5	1610.8	342.7	3.59	0.76	0.824	448	40128	290	24.9
2	1969.3	1833.9	135.4	7.28	0.54	0.931	252	55417	42	30.2
3	1772.0	1526.7	245.3	6.11	0.98	0.862	250	43250	380	28.3
4	1746.4	1276.4	470.0	1.41	0.52	0.731	908	32071	111	25.1
5	1806.1	1443.7	362.4	3.21	0.81	0.799	450	40943	297	28.4
6	1886.1	1604.9	281.2	3.47	0.61	0.851	462	43538	336	27.1
8	1050.9	834.7	216.2	5.06	1.31	0.794	165	23211	95	27.8
9	1189.7	1001.	188.71	4.15	0.78	0.841	241	27303	154	27.3
SUMMARY	13374.0	11132.1	2241.9	3.50	0.71	0.832	3176	305861	1705	27.5

TABLE II-24 DAILY FUZE ASSEMBLY MACHINE RAM RESULTS

MACHINE NO		DAY #1			DAY #2			DAY #3			DAY #4			DAY #5						
		NO FAILURES	MTBF	MTTR	AVAIL	NO FAILURES	MTBF	MTTR	AVAIL	NO FAILURES	MTBF	MTTR	AVAIL	NO FAILURES	MTBF	MTTR	AVAIL			
1	69	4.78	1.30	.785	114	3.28	.27	.925	117	3.15	.60	.840	84	3.21	1.10	.745	64	4.19	.93	.819
2	44	8.75	.60	.936	44	8.44	.86	.907	64	5.94	.46	.928	63	6.15	.37	.944	37	8.38	.50	.944
3	50	6.92	.71	.907	68	4.45	1.14	.796	46	7.02	1.49	.825	58	5.34	.66	.890	28	8.76	.91	.901
4	163	1.62	.54	.750	102	1.78	.44	.803	209	1.34	.58	.700	237	1.19	.51	.701	197	1.37	.49	.735
5	76	4.99	.69	.878	63	5.64	.53	.914	106	2.30	.76	.751	128	2.24	.79	.739	77	2.31	1.22	.653
6	45	5.46	1.58	.775	34	12.22	.61	.952	127	2.49	.59	.808	159	2.06	.41	.833	97	3.10	.51	.860
8	56	4.66	1.48	.758	75	4.15	1.21	.774	34	7.72	1.24	.862	-	-	-	-	-	-	-	-
9	72	4.71	.91	.839	84	3.06	.70	.814	50	3.69	.94	.798	35	6.28	.50	.926	-	-	-	-

TABLE II-25
FUZE ASSEMBLY DAILY PRODUCTION

MACHINE NO.	DAY #1			DAY #2			DAY #3			DAY #4			DAY #5		
	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN
1	8409	20	25.5	9860	15	26.3	8910	16	24.2	6101	143	22.6	6848	96	25.5
2	11635	5	30.2	11169	8	30.1	11398	14	30.0	11511	6	29.7	9704	9	31.3
3	10666	64	30.8	7592	57	25.1	8869	89	27.5	9235	90	29.8	6888	80	28.1
4	7027	22	26.6	4063	22	22.4	6908	27	24.7	7164	14	25.5	6909	26	25.7
5	10401	51	27.4	10902	43	30.7	6906	23	28.3	8672	90	30.2	4062	90	22.9
6	6599	38	26.9	11653	98	28.0	7815	64	24.7	9223	64	28.2	8248	72	27.4
8	7043	26	27.0	7116	36	22.8	9052	22	34.5	-	-	-	-	-	-
9	9052	33	26.7	6806	46	26.4	5230	66	28.4	6215	9	28.3	-	-	-

Daily production from each fuze assembly system is summarized in Table II-25. It should be noted that the RAM and production data for the fuze assembly system was gathered over a four week period, observing two machines per week. As a result comparison of the observed production capability to required output per shift involves consideration of the average daily output of each machine as representative of its production capability. These averages are provided in Table II-25A.

TABLE II-25A AVERAGE DAILY OUTPUT OF FUZE ASSEMBLY MACHINES

MACHINE NO.	1	2	3	4	5	6	8	9
AVG. PRODUCTION	8026	11083	8650	6414	8189	8708	7737	6826

If the averages in this table are summed, a total expected production capability, for the eight fuze assembly machines, of 65633 grenades/shift results. The requirement of 59136 grenades/shift is easily exceeded.

In addition, Table II-25 provides the daily observed rates for each of the fuze assembly machines. On only 8 of the 37 machine-days observed was the design rate of 30 parts per minute met or exceeded. Only machine #2 consistently functioned at the design rate. The averaged observed rate, measured by the ratio of total grenades processed to total actual uptime for all eight machines, was found to be 27.5 grenades/minute.

Finally, Table II-25 reflects the fact that the fuze assembly machines consistently operate at a reject rate of less than 2%. On only 2 of the 37 machine-days observed was a reject rate of 2% slightly exceeded. The reject rate averaged over all 37 machine-days was 0.56%.

The daily observed net rate of production for each fuze assembly machine is provided in Table II-26. These results offer a concise measure of machine capability, taking into simultaneous consideration production rate, RAM characteristics, and reject rate. Under the assumption that net rates follow an approximately normal distribution, the results in Table II-26 were used to compare the fuze assembly systems on the basis of net rate. Based on a one-way analysis of variance, the null hypothesis that the eight systems are equivalent was rejected at the .05 level of significance. Further examination of this difference using a multiple comparison test on the machine average net rates verified that 6 of the 8 machines were equivalent in terms of net rate, while the major contribution to statistical significance was the extreme difference in performance between machines #2 and #4. Machine #2 performed well in every respect, whereas #4 reflected both low availability and low observed rate.

TABLE II-26 FUZE ASSEMBLY MACHINE NET RATE

MACHINE NO.	NET RATE (PARTS/MIN)					AVE
	DAY #1	DAY #2	DAY #3	DAY #4	DAY #5	
1	20.0	24.3	20.3	16.4	20.6	20.4
2	28.3	27.3	27.8	28.0	29.5	28.1
3	27.8	19.8	22.4	26.3	25.1	24.2
4	19.9	17.9	17.2	17.8	18.8	18.3
5	24.0	27.9	21.2	22.1	14.6	22.5
6	20.7	26.5	19.8	23.4	23.4	22.9
8	20.4	17.6	29.6	-	-	22.0
9	22.3	21.4	22.4	26.1	-	22.8

e. DOWNTIME ANALYSIS

The fuze assembly Prove-Out data was analyzed by failure codes for each machine and summarized for all machines to pinpoint equipment deficiencies so that improvements can be considered on present equipment and instituted for future procurements. Tables II-27A to II-27H contain a breakdown of the failure data for each machine. The combined data by failure code appears in Table II-28.

TABLE II-27A INDIVIDUAL FUZE ASSY MACHINE DOWNTIME

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION 1	448	342.750	.765
0 NON-CODED FAILURES	4	26.133	6.533
2 NO FUZE	41	22.600	.370
3 TAPE FIXTURE PLACING	24	19.533	.814
4 EJECT FAIL	5	3.900	.780
11 WINDER SLIDE OUT	11	28.433	2.585
12 FUZE JAM	123	121.183	.985
18 TAPE FIXTURE RETRACT	19	14.467	.761
24 BODY ORIENTATION	156	38.667	.248
25 FUZE LIFTING DEVICE	1	.117	.117
27 GRENADE JAM	26	8.783	.338
28 TRAY-UNTRAY MALFUNCTION	8	14.433	1.804
29 BODY PALLET PROBLEM	10	44.500	4.450

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
MAKE ADJUSTMENTS	7.00
JAM GREN PICK UP STA	.75
REPLACE SPRING ON TAPE	9.58
MAKE ADJUSTMENTS TO CLUTCH	8.80

TABLE II-27B INDIVIDUAL FUZE ASSY MACHINE DOWNTIME

STATION/CODE	TABLE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION 2		252	135.417	.537
0 NON-CODED FAILURES		3	.667	.222
2 NO FUZE		16	5.333	.333
3 TAPE FIXTURE PLACING		6	1.967	.328
4 EJECT FAIL		2	4.633	2.317
7 BODY CONVEYOR LOW		5	3.600	.720
11 WINDER SLIDE OUT		5	19.450	3.890
12 FUZE JAM		49	24.650	.503
15 NO FUZE AFTER STAKE		2	5.400	2.700
16 FUZE STAKE MALFUNCTION		1	1.333	1.333
17 GRENADE IN CHAIN		7	3.700	.529
18 TAPE FIXTURE RETRACT		6	1.050	.175
23 ELECTRICAL INTERLOCK		1	.500	.500
24 BODY ORIENTATION		95	22.317	.235
25 FUZE LIFTING DEVICE		4	6.650	1.663
27 GRENADE JAM		39	13.533	.347
28 TRAY-UNTRAY MALFUNCTION		5	2.317	.463
29 BODY PALLFT PROBLEM		6	18.317	3.053

DESCRIPTION	REPAIR TIME
TAPE CAUGHT ON BODY EJECT	.28
BODY DOWN ON INFEED	.25
FALSE LIGHT	.13

TABLE II-27C INDIVIDUAL FUZE ASSY MACHINE DOWNTIME

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION 3	250	245.267	.981
0 NON-CODED FAILURES	6	12.933	2.156
2 NO FUZE	25	14.867	.595
3 TAPE FIXTURE PLACING	6	5.433	.906
4 EJECT FAIL	1	1.217	1.217
5 BODY PRESENT	2	1.250	.625
7 BODY CONVEYOR LOW	1	.267	.267
9 FUZE CONVEYOR OFF	1	1.467	1.467
11 WINDER SLIDE OUT	7	10.583	1.512
12 FUZE JAM	103	82.817	.804
15 NO FUZE AFTER STAKE	1	.717	.717
16 FUZE STAKE MALFUNCTION	4	40.000	10.000
18 TAPE FIXTURE RETRACT	13	10.800	.831
21 TAPE STRIPPER DOWN	3	6.367	2.122
24 BODY ORIENTATION	37	13.900	.376
25 FUZE LIFTING DEVICE	3	3.333	1.111
27 GRENADE JAM	26	12.917	.497
28 TRAY-UNTRAY MALFUNCTION	10	20.850	2.085
29 BODY PALLET PROBLEM	1	5.550	5.550

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
TIGHTEN CNVR INFEED BELT	3.55
FUZE KNOCKED OFF GRENADE	2.18
LUBRICATE SHOT PIN	2.00
FUZE JARRED OFF BODY	1.27
GRENADE FALLEN ON FLOOR	.47
ADJUST MACHINE TIMING	3.47

TABLE II-27D INDIVIDUAL FUZE ASSY MACHINE DOWNTIME

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION 4	908	470.000	.518
0 NON-CODED FAILURES	9	12.667	1.407
2 NO FUZE	50	33.667	.673
3 TAPE FIXTURE PLACING	4	2.483	.621
4 EJECT FAIL	1	1.650	1.650
5 BODY PRESFNT	8	4.267	.533
11 WINDER SLIDE OUT	33	20.483	.621
12 FUZE JAM	223	127.267	.571
15 NO FUZE AFTER STAKE	1	.817	.817
16 FUZE STAKF MALFUNCTION	15	61.800	4.120
18 TAPE FIXTURE RETRACT	49	33.483	.683
24 BODY ORIENTATION	327	93.867	.243
25 FUZE LIFTING DEVICE	14	16.350	1.168
27 GRENADE JAM	102	28.133	.276
28 TRAY-UNTRAY MALFUNCTION	9	26.383	2.931
29 BODY PALLFT PROBLEM	3	6.683	2.228

DESCRIPTION	REPAIR TIME
CONVEYOR CHAIN OUT OF LINE	1.18
CHANGE WIRE SHIELDS	2.18
FUZE KNOCKED OFF BODY BY GAGE	2.18
FUZE KNOCKED OFF BY GAGE	.27
FUZE KNOCKED OFF BY GAGE	1.07
MISC PROBLEM	2.18
CLUTCH LOCKED UP	2.32
FUZE KNOCKED OFF BY GAGE	1.07
FUZE KNOCKED OFF BY GAGE	.22

TABLE II-27E INDIVIDUAL FUZE ASSY MACHINE DOWNTIME

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION 5	450	362.433	.805
0 NON-CODED FAILURES	11	12.567	1.142
1 NO BODY	1	.800	.800
2 NO FUZE	25	19.450	.778
3 TAPE FIXTURE PLACING	4	3.617	.904
4 EJECT FAIL	15	17.000	1.133
5 BODY PRESFNT	2	.867	.433
11 WINDER SLIDE OUT	36	60.100	1.669
12 FUZE JAM	120	63.417	.528
16 FUZE STAKE MALFUNCTION	10	43.500	4.350
17 GRENADE IN CHAIN	5	3.800	.760
18 TAPE FIXTURE RETRACT	56	20.417	.365
21 TAPE STRIPPER DOWN	2	4.300	2.150
23 ELECTRICAL INTERLOCK	2	4.283	2.142
24 BODY ORIENTATION	108	41.917	.388
25 FUZE LIFTING DEVICE	28	22.933	.819
27 GRENADE JAM	16	4.500	.281
28 TRAY-UNTRAY MALFUNCTION	1	.400	.400
29 BODY PALLET PROBLEM	8	38.567	4.821

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NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
BROKEN SPRING ON MAGNET	5.28
SAFETY SWITCH ON	.50
CHAIN OUT OF TIME ADJUST	.58
ADJUST PRESSURE ON HYDRAULIC PUMP	.50
RESET SWITCH + REPLACE BODY	.43
CONV CHAIN OUT OF LINE	.75
CONV CHAIN OUT OF LINE	1.83
ALL STA BACK - RESET SWITCH	.53
FUZE KNOCKED OFF BODY	.28
BODY CAUGHT ON WINDER	1.58
FUZE KNOCKED OFF BODY	.28

TABLE II-27F INDIVIDUAL FUZE ASSY MACHINE DOWNTIME

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION 6	462	281.250	.609
0 NON-CODED FAILURES	2	5.967	2.983
2 NO FUZE	78	39.167	.502
3 TAPE FIXTURE PLACING	5	1.867	.373
8 TAPE CONVEYOR OFF	1	.400	.400
11 WINDER SLIDE OUT	21	42.333	2.016
12 FUZE JAM	121	96.700	.799
13 AIR JOG	2	5.517	2.758
14 FALLEN GRENADE	2	.417	.208
16 FUZE STAKE MALFUNCTION	1	1.767	1.767
17 GRENADE IN CHAIN	1	.450	.450
18 TAPE FIXTURE RETRACT	18	9.533	.530
21 TAPE STRIPPER DOWN	2	2.383	1.192
24 BODY ORIENTATION	199	65.050	.327
25 FUZE LIFTING DEVICE	4	7.250	1.813
27 GRENADE JAM	4	1.883	.471
28 TRAY-UNTRAY MALFUNCTION	1	.567	.567

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
ADJUST MACHINE TIMING	4.63
TIGHTEN CONV BELT	1.33

TABLE 11-27G INDIVIDUAL FUZE ASSY MACHINE DOWNTIME

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION 8	165	216.217	1.310
0 NON-CODED FAILURES	2	4.750	2.375
1 NO BODY	1	.933	.933
2 NO FUZE	22	23.150	1.052
3 TAPE FIXTURE PLACING	23	12.167	.529
6 TAPE CONVFYOR LOW	3	1.617	.539
11 WINDER SLIDE OUT	18	52.767	2.931
12 FUZE JAM	48	46.867	.976
14 FALLEN GRENADE	3	1.400	.467
15 NO FUZE AFTER STAKE	3	1.183	.394
16 FUZE STAKE MALFUNCTION	1	1.750	1.750
18 TAPE FIXTURE RETRACT	13	5.550	.427
20 TAPE RIVET DOWN	1	8.883	8.883
21 TAPE STRIPPER DOWN	7	23.250	3.321
24 BODY ORIENTATION	11	2.667	.242
25 FUZE LIFTING DEVICE	2	4.133	2.067
27 GRENADE JAM	2	1.417	.708
29 BODY PALLET PROBLEM	5	23.733	4.747

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
MAIN DRIVE SHAFT JAM	1.20
SET TIMING ON MACHINE	3.55

TABLE II-27H INDIVIDUAL FUZE ASSY MACHINE DOWNTIME

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION 9	241	188.717	.783
0 NON-CODED FAILURES	1	8.750	8.750
2 NO FUZE	22	9.950	.452
3 TAPE FIXTURE PLACING	2	1.033	.517
5 BODY PRESENT	7	3.950	.564
11 WINDER SLIDE OUT	11	30.367	2.761
12 FUZE JAM	111	67.950	.612
13 AIR JOG	1	.200	.200
14 FALLEN GRFNADE	1	.317	.317
15 NO FUZE AFTER STAKE	1	.333	.333
16 FUZE STAKE MALFUNCTION	1	.333	.333
17 GRENADE IN CHAIN	2	.667	.333
18 TAPE FIXTURE RETRACT	19	16.500	.868
21 TAPE STRIPPER DOWN	4	10.883	2.721
24 BODY ORIENTATION	30	12.283	.409
25 FUZE LIFTING DEVICE	5	4.717	.943
27 GRENADE JAM	16	5.250	.328
28 TRAY-UNTRAY MALFUNCTION	3	6.100	2.033
29 BODY PALLFT PROBLEM	4	9.133	2.283

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
ADJUST MACHINE TIMING	8.75

TABLE II-28 FUZE ASSEMBLY DOWNTIME SUMMARY

<u>CODE</u>	<u>FAILURE MODE</u>	<u>FREQUENCY</u>	<u>TIME</u>
0	NON-CODED FAILURES	38	84.434
1	NO BODY	2	1.733
2	NO FUZE	299	168.184
3	TAPE FIXTURE PLACING	74	48.100
4	EJECT FAIL	24	28.400
5	BODY PRESENT	19	10.334
6	TAPE CONVEYOR LOW	3	1.617
7	BODY CONVEYOR LOW	6	3.867
8	TAPE CONVEYOR OFF	1	.400
9	FUZE CONVEYOR OFF	1	1.467
11	WINDER SLIDE OUT	142	264.516
12	FUZE JAM	898	630.851
13	AIR JOG	3	5.717
14	FALLEN GRENADE	6	2.134
15	NO FUZE AFTER STAKE	8	8.450
16	FUZE STAKE MALFUNCTION	33	150.483
17	GRENADE IN CHAIN	15	8.617
18	TAPE FIXTURE RETRACT	193	111.800
20	TAPE RIVET DOWN	1	8.883
21	TAPE STRIPPER DOWN	18	47.183
23	ELECTRICAL INTERLOCK	3	4.783
24	BODY ORIENTATION	1023	290.668
25	FUZE LIFTING DEVICE	61	65.416
27	GRENADE JAM	231	76.415
28	TRAY-UNTRAY MALFUNCTION	37	71.050
29	BODY PALLET PROBLEM	37	146.483
TOTAL FAILURES = 3176			
TOTAL DOWNTIME = 2242.0			

There are five major problem areas highlighted as a result of this analysis which account for 68.4% of the total downtime. They are broken out separately in Table II-29.

TABLE II-29 FUZE ASSEMBLY RAM PROBLEM AREAS

FAILURE MODE	CODE	FREQUENCY	TIME	% DOWNTIME
NO FUZE	02	299	168.2	7.5
FUZE FEED	9,12,25	960	697.8	31.1
RIBBON WINDER	11	142	264.5	11.8
TAPE FIXTURE	18	193	111.8	5.0
BODY ORIENTATION	24	1023	290.7	13.0
SUBTOTAL	-	2616	1533.0	68.4
OTHER CAUSES	-	560	7709.0	31.6
TOTAL	-	3176	2242.0	100.0

In addition to representing 68% of the downtime, these areas also represent approximately 82% of the total number of failures. The biggest single problem with the fuze assembly machines (38.7%) is feeding the fuze to the placing station which, in turn, rotates the fuze 90° and places it on the grenade body. Improvement in this area would result in a significant increase in the availability of these machines. Investigation of a possible redesign of the fuze feed and placement system should be performed prior to additional procurement of this type of equipment.

f. SUBSYSTEM RAM ANALYSIS

The Fuze Assembly System is comprised of three separate machines or subsystems. They are:

- (1) Fuze Inspection and Feed
- (2) Tray-Untray
- (3) Fuze/Grenade/Tape Assembly

Table II-30 contains RAM data and estimates by subsystem for each fuze assembly machine individually. The subsystem availabilities in this table and in Table II-31 were calculated in the same way as those for the body loaders in section II.2.f. A graphical depiction of daily variability in subsystem availabilities is provided in Figures II-H and II-I for the Fuze-Feed and Fuze-Tape subsystems. Although the details are not provided herein, the daily subsystem availabilities were subjected to one-way analyses of variance to compare subsystems between fuze assembly machines.

TABLE II-30 SUBSYSTEM AVAILABILITY

MACHINE/SUBSYSTEM	NO. FAILURES	TOTAL TIME	DOWNTIME	AVAIL	MTTR	MTBF
1 FUZE FEED 1 TRAY UNTRAY FUZE TAPE	128 8 319	1732.0 1625.2 1817.7	121.3 14.4 207.0	0.930 0.991 0.886	0.98 1.80 0.66	12.99 201.3 5.10
2 FUZE FEED 2 TRAY UNTRAY FUZE TAPE	53 5 194	1865.2 1836.2 1935.6	31.3 2.3 101.8	0.983 0.999 0.947	0.59 0.46 0.53	34.6 366.8 9.45
3 FUZE FEED 3 TRAY UNTRAY FUZE TAPE	107 10 133	1614.4 1547.6 1663.6	87.6 20.85 136.8	0.946 0.987 0.918	0.82 2.09 1.03	14.27 152.7 11.48
4 FUZE FEED 4 TRAY UNTRAY FUZE TAPE	237 9 662	1420.0 1302.8 1576.4	143.6 26.4 300.0	0.899 0.980 0.810	0.61 2.93 0.45	5.39 141.8 1.93
5 FUZE FEED 5 TRAY UNTRAY FUZE TAPE	148 1 301	1530.0 1444.0 1719.4	86.35 0.47 275.7	0.944 0.999 0.840	0.58 0.40 0.92	9.75 1443.6 4.80
6 FUZE FEED 6 TRAY UNTRAY FUZE TAPE	125 1 336	1708.8 1605.36 1781.5	103.95 0.56 176.7	0.939 0.999 0.900	0.83 0.56 0.53	12.84 1604.8 4.78
8 FUZE FEED 8 TRAY UNTRAY FUZE TAPE	50 0 115	885.6 - 999.8	51.0 - 165.2	0.942 1.000 0.835	1.02 - 1.44	16.69 - 7.26
9 FUZE FEED 9 TRAY UNTRAY FUZE TAPE	116 3 122	1073.6 1007.1 1110.9	72.6 6.1 109.9	0.932 0.994 0.901	0.63 2.03 0.90	8.63 333.7 8.21

Statistically significant differences were found for the Fuze-Feed and Fuze-Tape subsystems. Subsequent multiple comparison tests on the subsystem mean availabilities indicated that the difference in the Fuze-Feed and systems was caused by the extremely good performance of this subsystem on machine #2. Fuze-Feed subsystems on the other seven machines were found to be equivalent. The difference in the Fuze-Tape subsystems was found to be a result of the subsystems from each machine dividing equally into two groups, four with availabilities near .8 and four near .9. As a result of these findings, it is reasonable to combine, as a measure of average performance, the subsystem RAM data for all eight fuze assembly machines. The combined data and estimates are provided in Table II-31.

TABLE II-31 FUZE ASSEMBLY SUBSYSTEM COMBINED RAM RESULTS

STATION/SUBSYSTEM	FREQ	DOWNTIME	%DOWNTIME	MTBF	MTTR	AVAIL
FUZE FEED SYSTEM	960	697.8	31.1	11.60	.73	.9410
TRAY-UNTRAY	37	71.0	3.2	300.86	1.92	.9937
FUZE-TAPE ASSEMBLY	2179	1473.2	65.7	5.11	.68	.8831

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FIG F HISTOGRAM OF
FREQUENCY OF REPAIRS VS. TIME TO REPAIR
FOR
FUZE ASSEMBLY MACHINES

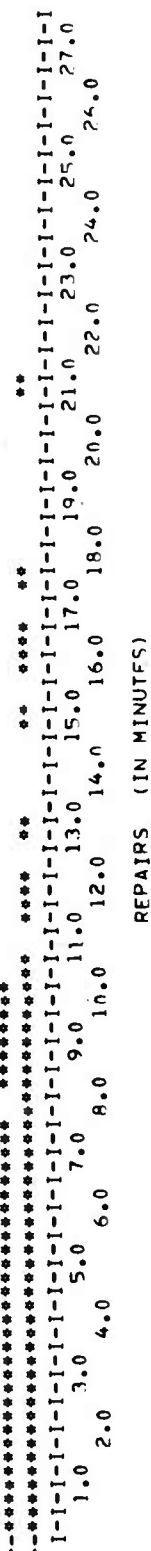


FIG II-G

FUZE ASSEMBLY MACHINE AVAILABILITIES

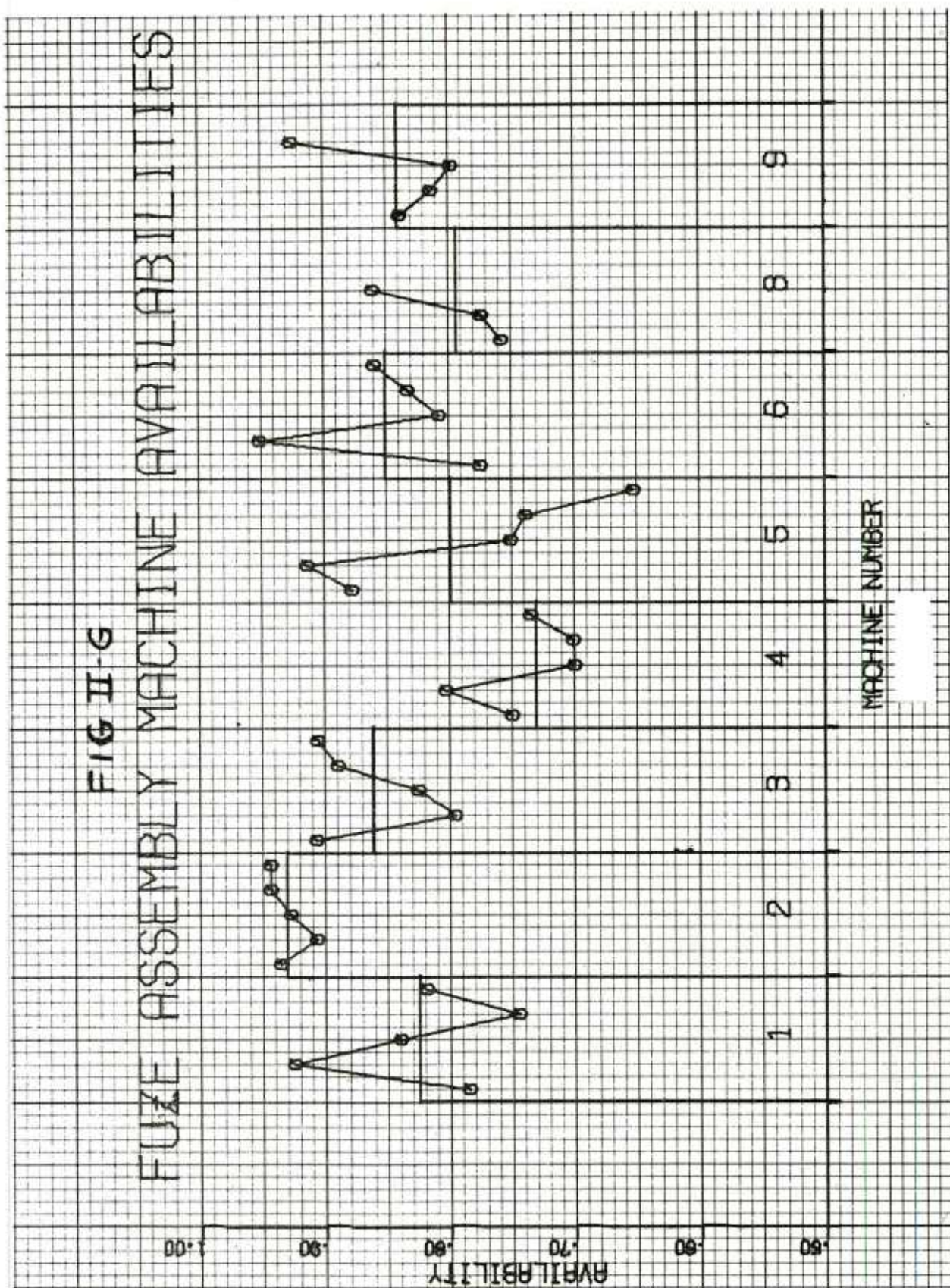
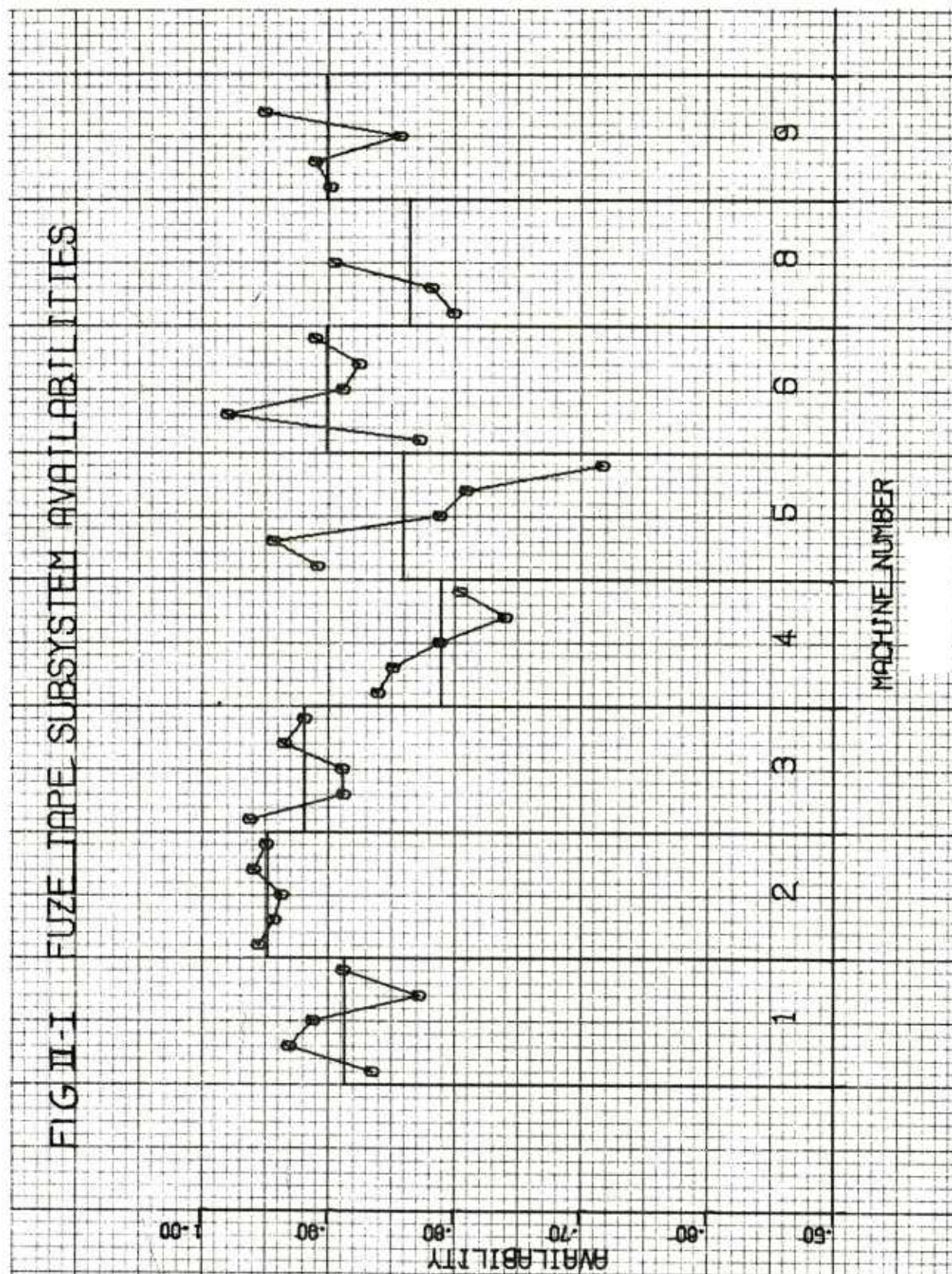


FIG II-1 FUZE TAPE SUBSYSTEM AVAILABILITIES



4. FINAL ASSEMBLY/PACK-OUT SYSTEM

This section summarizes the projectile loading, assembly, and pack-out equipment performance during the demonstration test. The data for this system were collected over a six week period during which the individual serially arranged machines making up this system were observed at different times. The presence of some degree of buffering between stations precluded the use of the product of the individual machine availability estimates, based on the observed RAM data, as an accurate estimate of the system availability. This value does, however, provide an estimate of a lower bound on the system availability. The RAM performance of the individual machines is summarized in Table II-32. The bottom line of this table provides the overall system results. The lower bound on system availability is computed using:

$$A_{\text{sys}} \geq \prod_{i=1}^n A_i = A_1 \times A_2 \times \dots \times A_n$$

where the A_i 's are the individual machine availability estimates.

A summary of the daily production output of the line is contained in Table II-33. This table also provides the scheduled uptime for each day and resultant estimates of daily net rates of production. An overall estimate of net rate for the line is also provided. This data reflects the important fact that the line has demonstrated that it can load, assemble, and pack-out more than the 672 projectiles per shift, which is the minimum level of production required to meet the MOB rate of 42,000 projectiles per month.

TABLE II-32
SYSTEM SUMMARY

MODULE	MTBF	MTTR	TOTAL MODULE FAILURES	AVAIL.	TOTAL SCHEDULED UPTIME	TOTAL ACTUAL UPTIME
PROJECTILE PLACING STA	33.4	1.0	44	.96994	1514.0	1468.5
FORWARD PLATE + ORIENT STA	276.4	.6	6	.99777	1662.0	1658.3
M42 LAYER 1 INSERTION	729.4	3.0	3	.99592	2197.3	2188.3
M42 LAYER 2 INSERTION	1037.7	.7	2	.99933	2076.8	2075.4
M42 LAYER 3 INSERTION	1015.7	2.3	2	.99778	2036.0	2031.5
M42 LAYER 4 INSERTION	1999.5	1.5	1	.99925	2001.0	1999.5
M42 LAYER 5 INSERTION	989.4	3.1	2	.99683	1985.0	1978.7
M42 LAYER 6 INSERTION	670.4	1.1	3	.99834	2014.5	2011.1
M42 LAYER 7 INSERTION	1598.0	0.0	0	1.00000	1598.0	1598.0
M42 LAYER 8 INSERTION	797.5	1.6	2	.99806	1598.0	1594.9
M46 LAYER 9 INSERTION	1596.0	0.0	0	1.00000	1596.0	1596.0
M46 LAYER 10 INSERTION	1596.0	0.0	0	1.00000	1596.0	1596.0
M46 LAYER 11 INSERTION	1480.0	0.0	0	1.00000	1480.0	1480.0
ADAPTER LAYER INSERTION	257.1	.5	8	.99789	2061.0	2056.6
SHIM INSERTION + GAGING	2076.0	0.0	0	1.00000	2076.0	2076.0
BASE PLUG TORQUE STA	2056.8	0.0	0	1.00000	2056.8	2056.8
PROJECTILE REMOVAL STA	699.4	4.7	2	.99338	1408.1	1398.8
ZONE WEIGH STATION	1650.0	0.0	0	1.00000	1650.0	1650.0
STENCIL M483A1	1650.0	0.0	0	1.00000	1650.0	1650.0
LIFTING PLUG TORQUE STA.	1650.0	0.0	0	1.00000	1650.0	1650.0
LEAK TEST STATION	1650.0	0.0	0	1.00000	1650.0	1650.0

LOWER BOUND ON SYSTEM AVAILABILITY = .9455 TOTAL FAILURES = 75 SYSTEM MTTR = 1.20

TABLE II-33
SUMMARY OF PACKOUT PRODUCTION RATES

DATE	SCHED UPTIME	PRODUCTION QTY	NET RATE
11/15/78	329.0	760	2.31
11/16/78	387.0	680	1.76
11/17/78	408.0	660	1.62
11/18/78	390.0	784	2.01
11/28/78	419.0	804	1.92
11/29/78	412.0	928	2.25
11/30/78	420.0	768	1.83
12/01/78	435.0	760	1.75
12/02/78	390.0	767	1.97
12/05/78	475.0	744	1.57
12/06/78	475.0	760	1.60
12/07/78	444.0	768	1.73
12/08/78	420.0	760	1.81
12/09/78	383.0	772	2.02
12/12/78	411.0	768	1.87
12/13/78	419.0	852	2.03
12/14/78	366.0	831	2.27
12/15/78	406.0	816	2.00
12/16/78	383.0	800	2.09
12/19/78	388.0	760	1.96
12/20/78	415.0	784	1.89
12/21/78	414.0	820	1.98
12/22/78	381.0	784	2.06
12/27/78	398.0	800	2.01
12/28/78	420.0	704	1.68
12/29/78	417.0	704	1.69
12/30/78	415.0	800	1.93
TOTAL	11020	20938	1.90

III. SYSTEM DESCRIPTION

A. DESCRIPTION OF DEMONSTRATION TEST

1. DEBUG ACCEPTANCE

After each machine has been installed and debugged, it will be qualified prior to the demonstration test. For a machine or station to qualify it must produce a consecutive number of acceptable parts. The required quantity for each machine is listed below:

<u>MACHINE</u>	<u>ACCEPTABLE PARTS</u>
Hardness Tester	450 Adapters or Grenades
Body Loader	450 Grenades
Fuze Assembly	370 Grenades
Final Assembly	190 Projectiles
Pack-Out	190 Projectiles

2. DEFINITION OF TEST

The test will consist of collecting RAM data for each machine/station which successfully passed the qualification test. The duration of the test will be five days, approximately 400 minutes operation per day for all qualified equipment. Due to limited number of qualified personnel to collect the RAM data it is expected that the test will run for approximately six weeks. The data will be collected in accordance with Form SARPA-QA 2807 and forwarded to ARRADCOM (DRDAR-QAS) on a monthly basis for review and evaluation. Samples of a completed RAM data form and keypunched computer data card are provided in Figure II-I.

3. EQUIPMENT EVALUATION

The following type and amount of equipment has been qualified and will undergo the demonstration test:

<u>QTY</u>	<u>TYPE</u>
1	Adapter Hardness Tester
3	Grenade Body Hardness Testers
2	Grenade Body Loaders
8	Fuze Assembly Machines
-	Final Assy/Pack-Out Equipment
1	Projectile Placing Station
2	Forward Plate Insertion Station
11	Grenade Insertion Stations
1	Adapter Insertion Station
1	Shim & Gage Station
1	Base Plug Torque Machine
1	Projectile Transfer Station
1	Zone Weigh Station
1	Stencil Station
1	Lifting Plug Torque Station
1	Leak Test Station

B. NARRATIVE OF SYSTEM OPERATION

The grenade bodies and adapters are conveyed through a demagnetization coil to eliminate any residual magnetism, then through an eddy coil to verify heat treatment. Parts rejected at this station are manually tested for hardness. Acceptable bodies are conveyed to lead cup insertion machines; the adapters go to projectile loading areas.

The lead cups are automatically inserted and the bodies are conveyed to the automated body loading system.

The bodies are assembled to nests and move into the rotary pellet press which automatically loads and compresses Composition A5 into the grenade bodies. A disassembly machine removes the nest from the grenade body and the loaded body continues to the rotary swaging machine. The nests are conveyed to the ultrasonic nest cleaner to remove excess explosive and returned to the assembly machine.

The rotary swaging machine receives the bodies and cones via conveyor and vibratory feeder system and automatically swages the cone into the body. The loaded grenade bodies are then conveyed to the fuze assembly machines.

The grenades are automatically oriented to accept a fuze and are locked into position. Fuzes are automatically removed from trays and inspected for depth of firing pin. Accepted fuzes are conveyed into the assembly machines and automatically positioned over studs on grenade body. The following checks are automatically performed to assure proper positioning of fuze on body:

1. Orientation of fuze.
2. Position of arming screw weight.
3. Presence and position of spiral pin.

The fuze is then staked to the body. Tape stiffener assemblies are manually placed on circulating ribbon staking fixtures, automatically positioned over the fuze arming screw and clinched to the rivet end of the arming screw. The body then proceeds to the winding fixture and the tape is wound automatically. The grenade assembly is now complete, automatically removed from machine and transferred to lot acceptance holding building. After appropriate functioning tests are performed and the lot is accepted, the grenades are transferred to final assembly.

Empty projectiles are conveyed to projectile placing station, placed in a pallet, oriented with keyway forward and cargo backup ram extended. The forwarded plate with o-ring and rubber pad is inserted into projectile and pallet is released to first grenade loading station. The first layer consisting of eight (8) M42 grenades, spacers, and splines is manually placed in the projectile. An automatic pin-pulling head extends, pushes grenades down in projectile to a set depth, pulls spiral pins and retracts to start position. The next seven layers consist of M42 grenades and are loaded in the same manner except that each layer is loaded at a different station. The next three layers consist of M46 grenades and are loaded using same procedures. After each layer is loaded, a visual check is performed for protruding sliders, presence of spiral pin and incorrect type of grenade (last three layers only). A layer of adapters is loaded into the projectile. A machine is activated to extend, press adapters to predetermined pressure, retract and release pallet. The depth is then automatically gaged at the next station and the required number of shims are added. The base plug is started into the projectile and the pallet passes to the next station where the base plug is automatically torqued and a torque check is performed. The pallet then passes to the zone weigh station which automatically weighs each projectile. The weight is maintained in memory and transferred to the zone stake station. The pallet is then released to this station and automatically stencilled and staked. The expulsion charge cup is then inserted into projectile, staked in place and gaged. The propellant charge is then inserted and the nose plug is started. At the next station, the nose plug is torqued and a torque check is performed. The pallet is then released to automated leak test station. The projectile then manually receives a grommet to protect the rotating band and is placed on a pallet. After palletizing is complete, the pallet goes to shipping and/or storage. A block diagram of this entire operation is contained in the process flow sheet.

C. SIMPLIFIED BLOCK DIAGRAM

On the next page is a block diagram showing the logical flow of materials as described above.

M 483 LAP OPERATION

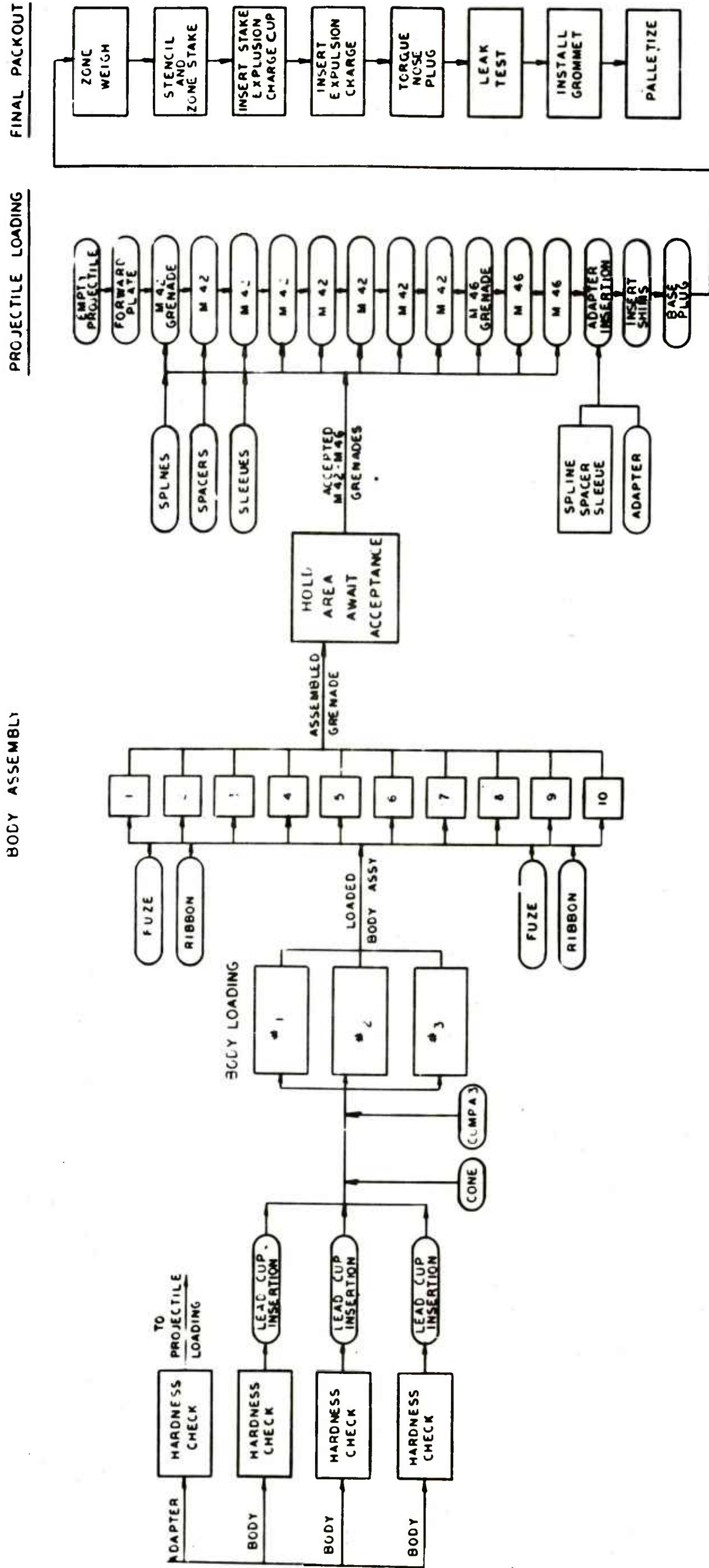


FIGURE II-K BLOCK DIAGRAM OF M483 ASSEMBLY LINE

APPENDIX B

COMPUTERIZED RAM RESULTS

FOR

HARDNESS

BODY LOADING

FUZE ASSEMBLY

FINAL ASSEMBLY/PACK-OUT

MODULE 1 = ADAPTER HARDNESS VERIF.

STATION 101 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODUL FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77	09:00	11:17	120.48	.35	1	1	CODF 32
11/28/77		11:26	8.65	.43	2	2	CODF 32
11/28/77		11:50	23.57	.63	3	3	CODF 32
11/28/77			END OF SHIFT AT 15:35				
11/29/77	08:15	12:40	399.37	.15	4	4	CODF 32
11/29/77		15:06	130.85	.35	5	5	CODF 32
11/29/77			END OF SHIFT AT 16:00				
11/30/77	08:10	09:28	131.65	.77	6	6	CODF 32
11/30/77		14:35	246.23	.60	7	7	CODF 32
11/30/77			END OF SHIFT AT 15:55				
12/01/77	08:05	09:48	182.40	.35	8	8	CODF 32
12/01/77		10:47	43.65	.30	9	9	CODF 32
12/01/77			END OF SHIFT AT 16:00				
12/02/77	08:15	09:29	326.70	.18	10	10	CODF 32
12/02/77		09:36	6.82	.27	11	11	CODF 32
12/02/77		10:35	43.73	.27	12	12	CODF 32
12/02/77		10:47	11.73	.18	13	13	CODF 32
12/02/77		14:40	187.82	.48	14	14	CODF 32
12/02/77			END OF SHIFT AT 15:30				

MODULE 2 = BODY HARDNESS VERIF. 1 STATION 102 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77	08:15						
11/28/77							
11/29/77	08:20						
11/29/77		10:24	509.00	1.00	1	15	CODE 35
11/29/77							
11/30/77	08:05						
11/30/77		11:00	450.00	.32	2	16	AIR LEAK-REPLACED SOLENOID VALVE
11/30/77							
12/01/77	08:00						
12/01/77		13:25	529.68	.27	3	17	CODE 32
12/01/77		15:03	82.73	.35	4	18	CODE 32
12/01/77							
12/02/77	08:00						
12/02/77							

MODULE 3 = BODY HARDNESS VERIF. 2 STATION 103 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77	08:15						
11/28/77		11:07	157.00	.65	1	19	CODE 33
11/28/77		15:12	189.42	.30	2	20	CODE 32
11/28/77		15:46	33.70	.43	3	21	CODE 36
11/28/77			END OF SHIFT AT 15:55				
11/29/77	08:05						
11/29/77		09:58	121.57	.18	4	22	CODE 36
11/29/77		10:50	36.82	.22	5	23	CODE 33
11/29/77			END OF SHIFT AT 16:00				
11/30/77	08:00						
11/30/77		09:09	333.78	.43	6	24	CODE 33
11/30/77		09:11	1.57	.27	7	25	CODE 34
11/30/77		09:12	.73	.18	8	26	CODE 32
11/30/77		13:17	199.82	.55	9	27	CODE 32
11/30/77			END OF SHIFT AT 15:15				
12/01/77	08:05						
12/01/77		12:38	324.93	.32	10	28	CODE 32
12/01/77		14:15	81.68	12.00	11	29	CODE 35
12/01/77			END OF SHIFT AT 16:00				
12/02/77	08:00						
12/02/77		09:02	155.00	.32	12	30	CODE 33
12/02/77		09:40	37.68	.27	13	31	CODE 32
12/02/77		10:50	54.73	.35	14	32	CODE 32
12/02/77		14:40	184.65	.52	15	33	CODE 32
12/02/77			END OF SHIFT AT 15:30				

MODULE 4 = BODY HAPPNESS VERIF. 3

STATION 104 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
11/28/77	08:15	08:27	12:00	.52	1	34	CODF 33
11/28/77		10:43	120.48	1.10	2	35	CODF 32
11/28/77		13:07	99.52	.32	3	36	CODF 33
11/28/77		15:29	126.68	.35	4	37	CODF 32
11/28/77			END OF SHIFT AT 15:55				
11/29/77	08:30	09:13	67.50	.35	5	38	CODF 33
11/29/77		10:35	66.65	.22	6	39	CODF 33
11/29/77		10:52	16.78	.15	7	40	CODF 33
11/29/77		11:41	48.85	.32	8	41	CODF 33
11/29/77		13:40	88.68	1.00	9	42	CODF 32
11/29/77		13:49	8.00	.43	10	43	CODF 32
11/29/77			END OF SHIFT AT 16:00				
11/30/77	08:00	10:48	268.57	2.00	11	44	CODF 35
11/30/77		11:12	22.00	.32	12	45	CODF 32
11/30/77		13:15	92.68	.68	13	46	CODF 32
11/30/77		14:28	57.32	.80	14	47	CODF 32
11/30/77		14:48	19.20	.60	15	48	CODF 32
11/30/77			END OF SHIFT AT 15:55				
12/01/77	08:00	08:10	76.40	.32	16	49	CODF 32
12/01/77		08:38	27.68	.57	17	50	CODF 32
12/01/77		09:02	23.43	1.43	18	51	CODF 32
12/01/77		09:47	43.57	.48	19	52	CODF 32
12/01/77		09:56	8.52	1.43	20	53	CODF 32
12/01/77		10:47	34.57	.27	21	54	CODF 32
12/01/77		11:26	38.73	.32	22	55	CODF 32
12/01/77		12:50	53.68	1.00	23	56	CODF 35
12/01/77		14:15	69.00	10.00	24	57	CODF 35
12/01/77		15:10	45.00	.30	25	58	CODF 32
12/01/77		15:23	12.70	.40	26	59	CODF 32
12/01/77			END OF SHIFT AT 16:00				
12/02/77	08:25	10:39	155.60	.48	27	60	CODF 32
12/02/77							

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MODULE 4 = BODY HARDNESS VERIF. 3 (CONTD) STATION 104 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/02/77		11:01	21.52	15.02	28	61	CODE 37
12/02/77		11:20	3.98	14.93	29	62	CODE 37
12/02/77		13:12	67.07	.60	30	63	CODE 32
12/02/77		13:35	22.40	.68	31	64	CODE 32
12/02/77		15:06	73.32	.72	32	65	CODE 32
12/02/77							

END OF SHIFT AT 15:30

MODULE 1 = BODY LOADING STATION 1				STATION 201 AT KAAP			
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBFR	SYSTEM FAILURE NUMBER	FAILURE MODE
11/15/77	08:00				1	1	CODE901
11/15/77		08:05	5.00	2.15	2	2	CODE211
11/15/77		08:09	1.85	2.00	3	3	CODE902
11/15/77		08:14	3.00	3.65	4	4	CODE605
11/15/77		08:31	13.35	.65	5	5	CODE211
11/15/77		08:37	5.35	1.47	6	6	CODE409
11/15/77		08:44	5.53	1.00	7	7	CODE605
11/15/77		08:46	1.00	1.47	8	8	CODE902
11/15/77		08:55	7.53	1.47	9	9	CODE308
11/15/77		08:58	1.53	.47	10	10	CODE605
11/15/77		09:00	1.53	.47	11	11	CODE210
11/15/77		09:03	2.53	.47	12	12	CODE502
11/15/77		09:36	32.53	1.00	13	13	CODE902
11/15/77		10:01	24.00	1.00	14	14	CODE211
11/15/77		10:11	9.00	1.40	15	15	CODE307
11/15/77		10:13	.60	.32	16	16	CODE303
11/15/77		10:21	7.68	2.00	17	17	CODE304
11/15/77		11:14	47.68	1.65	18	18	CODE901
11/15/77		11:35	11.88	.55	19	19	CODE902
11/15/77		11:37	1.45	.22	20	20	CODE803
11/15/77		11:45	7.78	1.00	21	21	CODE303
11/15/77		11:49	3.00	.18	22	22	CODE502
11/15/77		11:50	.82	.72	23	23	CODE902
11/15/77		12:02	11.28	.47	24	24	CODE202
11/15/77		12:14	11.53	.72	25	25	CODE203
11/15/77		12:35	20.28	.82	26	26	CODE210
11/15/77		12:41	5.18	.40	27	27	CODE407
11/15/77		13:20	38.60	1.32	28	28	CODE902
11/15/77		13:23	1.68	1.00	29	29	CODE902
11/15/77		13:35	11.00	.35	30	30	CODE303
11/15/77		13:37	1.65	.23	31	31	CODE210
11/15/77		13:54	16.77	1.47	32	32	CODE605
11/15/77		13:57	1.53	.52	33	33	CODE605
11/15/77		14:04	6.48	.18	34	34	CODE406
11/15/77		14:09	4.82	.93	35	35	CODE504
11/15/77		14:23	13.07	1.47	36	36	CODE203
11/15/77		14:55	30.18	.47	37	37	
11/15/77		14:58	2.53	2.47	38	38	
11/15/77		15:03	2.53	.63	39	39	
11/15/77		15:16	12.37	.82			

MODULE 1 = BODY LOADING STATION 1 (CONTD) STATION 201 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
11/15/77	15:20	3.18	.65	40	40		CODF203
11/15/77	15:26	5.35	.72	41	41		CODF902
11/15/77	15:30	3.28	.47	42	42		CODF211
11/15/77	15:35	4.53	.47	43	43		CODF303
11/15/77	15:40	4.53	.77	44	44		CODF504
11/15/77	15:43	2.23	.65	45	45		CODF203
11/15/77	15:44	.35	1.47	46	46		CODF212
11/15/77	15:46	.53	.60	47	47		CODF401
END OF SHIFT AT 16:00							
11/16/77	08:05						
11/16/77	08:06	14.40	1.18	48	48		CODF605
11/16/77	08:11	3.82	1.72	49	49		CODF605
11/16/77	08:16	3.28	.15	50	50		CODF202
11/16/77	08:24	7.85	.60	51	51		CODF210
11/16/77	08:31	6.40	1.00	52	52		CODF605
11/16/77	08:35	3.00	1.00	53	53		CODF202
11/16/77	08:54	18.00	.55	54	54		CODF202
11/16/77	09:30	35.45	1.82	55	55		CODF211
11/16/77	09:44	12.18	.27	56	56		CODF202
11/16/77	09:46	1.73	.22	57	57		CODF202
11/16/77	10:05	18.78	3.00	58	58		CODF502
11/16/77	10:12	4.00	.32	59	59		CODF210
11/16/77	10:29	16.68	.60	60	60		CODF605
11/16/77	10:42	8.18	1.00	61	61		CODF103
11/16/77	10:46	3.00	.18	62	62		CODF202
11/16/77	11:04	9.82	.65	63	63		CODF600
11/16/77	11:40	35.35	.65	64	64		CODF100
11/16/77	11:41	.35	.18	65	65		CODF202
11/16/77	12:42	60.82	6.00	66	66		CODF211
11/16/77	12:48	0.00	3.47	67	67		CODF103
11/16/77	12:55	2.07	2.00	68	68		CODF402
11/16/77	12:58	1.00	2.32	69	69		CODF201
11/16/77	13:25	24.68	.18	70	70		CODF202
11/16/77	13:30	4.82	2.32	71	71		CODF502
11/16/77	13:40	7.68	2.00	72	72		CODF901
11/16/77	13:43	1.00	1.32	73	73		CODF605
11/16/77	13:48	3.68	1.52	74	74		CODF605
11/16/77	13:53	3.48	2.52	75	75		CODF402
11/16/77	14:48	17.48	1.73	76	76		CODF606

MODULE 1 = BODY LOADING STATION 1 (CONTD) STATION 201 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
11/16/77	14:52	2.27	2.93	77	77	77	CODF211
11/16/77	15:00	4.13	1.52	78	78	78	CODF901
11/16/77	15:07	5.48	.22	79	79	79	CODF304
11/16/77	15:18	10.78	1.00	80	80	80	CODF902
11/16/77	15:25	6.00	1.43	81	81	81	CODF901
11/16/77	15:27	.57	1.38	82	82	82	CODF901
11/16/77	15:29	.62	1.43	83	83	83	CODF901
11/16/77	15:36	5.57	1.77	84	84	84	CODF901
11/16/77	15:41	3.23	1.35	85	85	85	CODF901
11/16/77	15:44	1.65	2.00	86	86	86	CODF103
11/16/77	15:47	1.00	1.43	87	87	87	CODF901
11/16/77	15:51	2.57	1.02	88	88	88	CODF901

END OF SHIFT AT 15:55

11/17/77	08:15	12.92	.32	89	89	89	CODE202
11/17/77	08:31	3.68	1.47	90	90	90	CODF409
11/17/77	08:35	2.53	.40	91	91	91	CODE202
11/17/77	08:37	1.60	.47	92	92	92	CODF605
11/17/77	08:39	1.53	.88	93	93	93	CODF605
11/17/77	08:41	1.12	1.22	94	94	94	CODF605
11/17/77	08:43	.78	1.10	95	95	95	CODF605
11/17/77	08:58	13.90	.85	96	96	96	CODF605
11/17/77	09:05	6.15	.30	97	97	97	CODF202
11/17/77	09:07	1.70	.85	98	98	98	CODF900
11/17/77	09:09	1.15	3.43	99	99	99	CODF900
11/17/77	09:15	2.57	.43	100	100	100	CODF202
11/17/77	09:18	2.57	3.27	101	101	101	CODF605
11/17/77	09:44	22.33	1.43	102	102	102	CODF202
11/17/77	09:46	.57	2.00	103	103	103	CODF408
11/17/77	09:48	0.00	2.55	104	104	104	CODF902
11/17/77	09:51	.45	.32	105	105	105	CODF503
11/17/77	09:54	2.68	.60	106	106	106	CODF202
11/17/77	10:17	6.40	3.27	107	107	107	CODF211
11/17/77	10:28	7.73	1.15	108	108	108	CODF202
11/17/77	10:42	12.85	.72	109	109	109	CODF407
11/17/77	11:21	38.28	1.15	110	110	110	CODF202
11/17/77	11:27	4.85	1.05	111	111	111	CODF601
11/17/77	11:34	5.95	2.55	112	112	112	CODF601
11/17/77	11:40	3.45	.90	113	113	113	CODF601

MODULE 1 = BODY LOADING STATION 1 (CONTO) STATION 201 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/17/77	11:45	4:10	1.15	114	114	114	COOF601
11/17/77	12:53	36.08	.60	115	115	115	COOF902
11/17/77	13:16	22.40	.85	116	116	116	COOF601
11/17/77	13:21	4.15	2.00	117	117	117	COOF504
11/17/77	13:29	6.00	5.40	118	118	118	COOF212
11/17/77	13:35	.60	.40	119	119	119	COOF203
11/17/77	13:39	3.60	1.05	120	120	120	COOF406
11/17/77	13:44	3.95	.47	121	121	121	COOF601
11/17/77	13:53	8.53	1.30	122	122	122	COOF212
11/17/77	14:19	9.70	.88	123	123	123	COOF601
11/17/77	14:27	7.12	2.68	124	124	124	COOF601
11/17/77	14:52	22.32	.27	125	125	125	COOF202
11/17/77	15:01	8.73	.40	126	126	126	COOF202
11/17/77	15:50	48.60	1.00	127	127	127	COOF103
11/17/77	15:52	1.00	.27	128	128	128	COOE202
END OF SHIFT AT 16:00							

11/18/77	07:58	13.73	1.27	129	129	129	COOF601
11/18/77	08:09	2.73	.60	130	130	130	COOF407
11/18/77	08:13	3.40	.52	131	131	131	COOF302
11/18/77	08:17	1.48	.82	132	132	132	COOF303
11/18/77	08:19	9.18	5.85	133	133	133	COOF212
11/18/77	08:29	2.15	1.52	134	134	134	COOF503
11/18/77	08:37	3.48	.68	135	135	135	COOE407
11/18/77	08:42	8.32	1.72	136	136	136	COOF605
11/18/77	08:51	.28	2.72	137	137	137	COOF605
11/18/77	08:53	29.28	.40	138	138	138	COOF407
11/18/77	09:25	2.60	1.32	139	139	139	COOF401
11/18/77	09:28	6.68	3.68	140	140	140	COOF212
11/18/77	09:36	20.32	1.77	141	141	141	COOF601
11/18/77	10:16	3.23	.72	142	142	142	COOF601
11/18/77	10:21	10.28	1.00	143	143	143	COOF601
11/18/77	10:32	10.00	1.10	144	144	144	COOF401
11/18/77	10:43	10.23	.77	145	145	145	COOF702
11/18/77	10:49	10.23	.47	146	146	146	COOF407
11/18/77	11:00	3.53	.40	147	147	147	COOF103
11/18/77	11:04	5.60	.18	148	148	148	COOF407
11/18/77	11:10	3.82	.82	149	149	149	COOF601
11/18/77	11:14	8.18	1.48	150	150	150	COOF504
11/18/77	11:23						

MODULE 1 = BODY LOADING STATION 1 (CONTD) STATION 201 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/18/77		11:32	7.52	.68	151	151	CODE504
11/18/77		11:35	2.32	1.22	152	152	CODE902
11/18/77		11:39	2.78	1.15	153	153	CODE604
11/18/77		12:31	20.45	.77	154	154	CODE407
11/18/77		12:33	1.23	.32	155	155	CODE212
11/18/77		12:48	14.68	.68	156	156	CODE902
11/18/77		12:51	2.32	.60	157	157	CODE202
11/18/77		13:10	18.40	7.68	158	158	CODE507
11/18/77		13:21	3.32	.38	159	159	CODE202
11/18/77		13:39	17.62	1.15	160	160	CODE202
11/18/77		13:49	8.85	1.02	161	161	CODE103
11/18/77		14:29	23.98	1.07	162	162	CODE407
11/18/77		14:51	20.67	.93	163	163	CODE202
11/18/77		15:27	35.07	.57	164	164	CODE503
11/18/77		15:31	3.43	.68	165	165	CODE503
11/18/77		15:34	2.32	.22	166	166	CODE210
11/18/77							

END OF SHIFT AT 15:39

MODULE 2 = BODY LOADING STATION 3

STATION 203 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
11/15/77	08:00	08:06	6.00	3.15	1	167	CODF604
11/15/77		08:10	.85	1.22	2	168	CODF901
11/15/77		08:12	.78	3.00	3	169	CODF901
11/15/77		08:17	2.00	1.85	4	170	CODF604
11/15/77		08:22	3.15	.60	5	171	CODF201
11/15/77		08:32	9.40	.85	6	172	CODF303
11/15/77		08:47	14.15	.52	7	173	CODF203
11/15/77		09:01	8.93	.65	8	174	CODF501
11/15/77		09:04	2.35	2.43	9	175	CODF901
11/15/77		09:27	20.57	1.02	10	176	CODF603
11/15/77		09:41	12.68	.77	11	177	CODF202
11/15/77		10:21	38.97	1.35	12	178	CODF202
11/15/77		10:23	.65	.77	13	179	CODF202
11/15/77		11:46	80.97	.40	14	180	CODF202
11/15/77		12:03	16.60	.15	15	181	CODF202
11/15/77		12:04	.85	.90	16	182	CODF901
11/15/77		12:06	1.10	.38	17	183	CODF901
11/15/77		12:11	4.62	.57	18	184	CODF203
11/15/77		12:15	3.43	.52	19	185	CODF304
11/15/77		12:34	18.48	1.00	20	186	CODF203
11/15/77		13:18	42.53	.90	21	187	CODF202
11/15/77		14:16	56.30	2.48	22	188	CODF901
11/15/77		14:29	10.52	.43	23	189	CODF304
11/15/77		14:37	7.57	.65	24	190	CODF210
11/15/77		15:01	23.08	.72	25	191	CODF203
11/15/77		15:30	28.28	.77	26	192	CODF304
11/15/77							
END OF SHIFT AT 16:00							
11/16/77	08:00	08:15	42.83	.82	27	193	CODF901
11/16/77		08:30	14.18	.22	28	194	CODF202
11/16/77		09:00	29.78	.32	29	195	CODF202
11/16/77		09:24	23.68	0.00	30	196	CODF901
11/16/77		09:33	8.18	.22	31	197	CODF402
11/16/77		09:39	5.78	.72	32	198	CODF401
11/16/77		09:46	6.28	.88	33	199	CODF401
11/16/77		09:50	3.12	3.65	34	200	CODF401
11/16/77		09:57	3.35	3.07	35	201	CODF210
11/16/77		10:09	8.93	.32	36	202	CODF202

MODUL F 2 = BODY LOADING STATION 3			(CONTD)		STATION 203 AT KAAP		
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/16/77		10:16	6.68	.22	37	203	CODF401
11/16/77		10:18	1.78	.32	38	204	CODF203
11/16/77		10:23	4.68	1.15	39	205	CODF608
11/16/77		10:34	9.85	3.07	40	206	CODF901
11/16/77		11:07	29.93	.82	41	207	CODF608
11/16/77		11:35	27.18	.40	42	208	LOST AIR PRESSURE
11/16/77		11:37	1.60	.55	43	209	CODF401
11/16/77		12:26	48.45	3.82	44	210	CODF401
11/16/77		12:36	6.18	1.82	45	211	CODF210
11/16/77		12:40	2.18	.65	46	212	CODF210
11/16/77		12:50	9.35	23.00	47	213	CODF402
11/16/77		13:13	0.00	2.72	48	214	CODF402
11/16/77		13:23	7.28	1.65	49	215	CODF901
11/16/77		13:25	.35	.65	50	216	CODF901
11/16/77		13:33	7.35	.47	51	217	CODF401
11/16/77		13:36	2.53	2.15	52	218	CODF401
END OF SHIFT AT 13:48							
11/17/77	08:01						
11/17/77		09:42	22.87	2.43	53	219	CODF901
11/17/77		09:46	1.57	1.32	54	220	CODF201
11/17/77		10:21	13.05	.60	55	221	CODF202
11/17/77		10:27	4.18	1.27	56	222	CODF901
11/17/77		10:31	2.73	1.10	57	223	CODF604
11/17/77		10:41	3.45	1.02	58	224	CODF506
11/17/77		10:49	3.65	.77	59	225	CODF901
11/17/77		10:51	1.23	.63	60	226	CODF202
11/17/77		11:00	2.77	.52	61	227	CODF901
11/17/77		11:04	1.55	1.65	62	228	CODF901
11/17/77		11:06	.35	1.52	63	229	CODF901
11/17/77		11:11	3.48	.47	64	230	CODF210
11/17/77		11:30	18.53	.52	65	231	CODF210
11/17/77		11:31	.48	1.00	66	232	CODF900
11/17/77		11:53	21.00	.48	67	233	CODF604
11/17/77		12:30	2.53	9.22	68	234	CODF902
11/17/77		12:50	6.23	2.52	69	235	CODF203
11/17/77		12:54	1.48	.88	70	236	CODF202
11/17/77		13:27	14.30	1.43	71	237	CODF212
11/17/77		13:32	3.57	7.77	72	238	CODF212
11/17/77		13:48	6.83	6.60	73	239	CODF212

MODUL 2 = BODY LOADING STATION 3

(CONTD)

STATION 203 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/17/77	14:40	14:40	30.40	.97	74	240	CODF304
11/17/77	14:50	14:50	8.68	1.40	75	241	CODF504
11/17/77	14:56	14:56	4.60	.43	76	242	CODF304
11/17/77	15:02	15:02	2.12	2.18	77	243	CODF504
11/17/77	15:05	15:05	.82	1.15	77	244	CODF902
11/17/77	15:07	15:07	.85	1.02	79	245	CODF901
11/17/77	15:09	15:09	.98	2.38	80	246	CODF604
11/17/77	15:13	15:13	1.62	.93	81	247	CODF203
11/17/77	15:15	15:15	1.07	2.43	82	248	CODF609
11/17/77	15:22	15:22	4.57	1.13	83	249	CODF401
11/17/77	15:25	15:25	1.87	.52	84	250	CODF203
11/17/77	15:48	15:48	22.48	1.02	85	251	CODF901
11/17/77	15:51	15:51	1.98	.77	86	252	CODF901
11/17/77	15:52	15:52	.23	1.38	87	253	CODF901
11/17/77	15:54	15:54	.62	1.05	88	254	CODF901
11/17/77	15:56	15:56	.95	1.00	89	255	CODF401
11/17/77			END OF SHIFT AT 15:58				
11/18/77	08:00	08:02	3.00	.82	90	256	CODF504
11/18/77	08:04	08:04	1.18	1.10	91	257	CODF407
11/18/77	08:34	08:34	6.52	7.00	92	258	CODF212
11/18/77	08:45	08:45	1.68	1.15	93	259	CODF901
11/18/77	08:52	08:52	5.85	2.02	94	260	CODF902
11/18/77	08:58	08:58	3.98	1.73	95	261	CODF901
11/18/77	09:01	09:01	1.27	2.00	96	262	CODF901
11/18/77	09:07	09:07	4.00	1.93	97	263	CODF203
11/18/77	09:25	09:25	16.07	4.43	98	264	CODF900
11/18/77	09:50	09:50	7.08	1.82	99	265	CODF901
11/18/77	11:00	11:00	41.43	2.40	100	266	CODF901
11/18/77	11:20	11:20	17.60	.27	101	267	CODF210
11/18/77	11:25	11:25	4.73	1.10	102	268	CODF202
11/18/77	11:44	11:44	10.67	1.60	103	269	CODF901
11/18/77	11:54	11:54	8.40	.68	104	270	CODF202
11/18/77	12:37	12:37	10.88	1.60	105	271	CODF604
11/18/77	12:45	12:45	5.93	.22	106	272	CODF406
11/18/77	13:08	13:08	22.78	.52	107	273	CODF202
11/18/77	13:21	13:21	12.48	1.15	108	274	CODF901
11/18/77	13:44	13:44	20.92	.65	109	275	CODF210
11/18/77	13:48	13:48	3.35	2.10	110	276	CODF406

MODULE 2 = BODY LOADING STATION 3		(CONTD)		STATION 203 AT KAAP			
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/19/77		14:37	30.22	6.27	111	277	C00F406
11/18/77		14:45	1.73	6.80	112	278	C00F406
11/18/77		14:52	.20	1.22	113	279	C00F901
11/18/77		15:00	3.80	7.43	114	280	C00F406
11/18/77		15:08	.57	2.35	115	281	C00F406
11/18/77		15:11	.65	1.52	116	282	C00F401
11/18/77		15:27	9.22	8.82	117	283	C00F406
11/18/77		15:43	7.18	2.15	118	284	C00F405
11/18/77			END OF SHIFT AT 15:46				

MODULE 1 = FUZE ASSEMBLY STATION 1			STATION 301 AT KAAP				
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF RFAIP	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/12/77	08:00		0.00	7.00	1	1	MAKF ADJUSTMENTS
12/12/77	08:28		21.00	6.20	2	2	CODF 29
12/12/77	08:36		1.80	1.13	3	3	CODF 12
12/12/77	08:38		.87	.75	4	4	CODF 02
12/12/77	08:41		2.25	.80	5	5	CODF 12
12/12/77	08:42		.20	.58	6	6	CODF 12
12/12/77	08:44		1.42	2.28	7	7	CODF 29
12/12/77	08:47		.72	4.83	8	8	CODF 29
12/12/77	08:52		.17	.53	9	9	CODF 12
12/12/77	08:56		3.47	.43	10	10	CODF 12
12/12/77	08:57		.57	.25	11	11	CODF 24
12/12/77	08:59		1.75	.50	12	12	CODF 12
12/12/77	09:00		.50	.25	13	13	CODF 24
12/12/77	09:01		.75	.50	14	14	CODF 12
12/12/77	09:06		4.50	.75	15	15	JAM GREEN PICK UP STA
12/12/77	09:18		11.25	2.80	16	16	CODF 12
12/12/77	09:22		1.20	.25	17	17	CODF 02
12/12/77	09:29		6.75	.53	18	18	CODF 12
12/12/77	09:30		.47	9.58	19	19	REPLACE SPRING ON TAPE
12/12/77	09:41		1.42	5.00	20	20	CODF 28
12/12/77	10:25		39.00	.93	21	21	CODF 12
12/12/77	10:26		.07	.28	22	22	CODF 24
12/12/77	10:29		2.72	1.88	23	23	CODF 12
12/12/77	10:37		6.12	1.05	24	24	CODF 12
12/12/77	10:40		1.95	.63	25	25	CODF 03
12/12/77	10:45		4.37	.58	26	26	CODF 12
12/12/77	10:47		1.42	.20	27	27	CODF 24
12/12/77	10:53		5.80	.43	28	28	CODF 12
12/12/77	10:55		1.57	.58	29	29	CODF 12
12/12/77	10:57		1.42	.53	30	30	CODF 12
12/12/77	11:01		3.47	2.10	31	31	CODF 12
12/12/77	11:04		.90	1.33	32	32	CODF 02
12/12/77	11:06		.67	.68	33	33	CODF 12
12/12/77	11:23		16.32	2.43	34	34	CODF 24
12/12/77	11:30		4.57	.53	35	35	CODF 12
12/12/77	11:36		5.47	1.58	36	36	CODF 12
12/12/77	11:39		1.42	2.10	37	37	CODF 24
12/12/77	12:37		25.90	.50	38	38	CODF 24
12/12/77	12:39		1.50	.25	39	39	CODF 24

MODULE 1 = FUZE ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/12/77		12:41	1:42	.5A	40	40	CODF 24
12/12/77		12:42	.42	.6A	41	41	CODF 27
12/12/77		12:43	.32	.2A	42	42	CODF 12
12/12/77		12:44	.72	.63	43	43	CODF 02
12/12/77		12:47	2:37	.6A	44	44	CODF 02
12/12/77		12:50	2:32	.63	45	45	CODF 27
12/12/77		13:04	13:37	.50	46	46	CODF 12
12/12/77		13:12	7:50	1:25	47	47	CODF 03
12/12/77		13:20	6:75	.40	48	48	CODF 12
12/12/77		13:23	2:60	.2A	49	49	CODF 24
12/12/77		13:25	1:72	3:33	50	50	CODF 12
12/12/77		13:37	8:67	.50	51	51	CODF 27
12/12/77		13:38	.50	.40	52	52	CODF 18
12/12/77		13:39	.60	3:28	53	53	CODF 12
12/12/77		13:43	.72	.50	54	54	CODF 27
12/12/77		13:45	1:50	.25	55	55	CODF 24
12/12/77		14:22	21:75	.50	56	56	CODF 27
12/12/77		14:23	.50	.25	57	57	CODF 12
12/12/77		14:24	.75	.5A	58	58	CODF 03
12/12/77		14:27	2:42	.25	59	59	CODF 24
12/12/77		14:29	1:75	.25	60	60	CODF 24
12/12/77		14:41	11:75	.40	61	61	CODF 18
12/12/77		14:47	5:60	1:58	62	62	CODF 12
12/12/77		14:49	.42	.2A	63	63	CODF 02
12/12/77		14:50	.72	6:2A	64	64	CODF 29
12/12/77		15:19	22:72	.25	65	65	CODF 27
12/12/77		15:23	3:75	.25	66	66	CODF 12
12/12/77		15:25	1:75	.2A	67	67	CODF 24
12/12/77		15:34	8:72	.50	68	68	CODF 12
12/12/77		15:41	6:50	.5A	69	69	CODF 12
12/12/77		END OF SHIFT AT 15:45					
12/12/77		END OF SHIFT AT 15:45					
12/12/77	08:00	08:07	10:42	.12	70	70	CODF 24
12/12/77		08:17	9:88	.33	71	71	CODF 27
12/12/77		08:26	8:67	.10	72	72	CODF 27
12/12/77		08:31	4:90	.12	73	73	CODF 24
12/12/77		08:32	.88	.10	74	74	CODF 24
12/12/77		08:33	.90	.12	75	75	CODF 25
12/12/77		08:35	1:88	1:10	76	76	CODF 11

MODULE 1 = FUZE ASSEMBLY STATION 1			(CONTD)		STATION 301 AT KAAP		
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/13/77	08:41	08:41	4.90	1.25	77	77	CODF 27
12/13/77	08:43	08:43	.75	.10	78	78	CODF 24
12/13/77	08:45	08:45	1.90	.12	79	79	CODF 24
12/13/77	08:48	08:48	2.88	.13	80	80	CODF 02
12/13/77	08:49	08:49	.87	.10	81	81	CODF 24
12/13/77	08:54	08:54	4.90	.10	82	82	CODF 24
12/13/77	08:55	08:55	.90	.12	83	83	CODF 27
12/13/77	09:04	09:04	8.88	.10	84	84	CODF 24
12/13/77	09:05	09:05	.90	.07	85	85	CODF 02
12/13/77	09:10	09:10	4.93	.12	86	86	CODF 02
12/13/77	09:12	09:12	1.88	.40	87	87	CODF 02
12/13/77	09:17	09:17	4.60	.25	88	88	CODF 02
12/13/77	09:21	09:21	3.75	.12	89	89	CODF 24
12/13/77	09:22	09:22	.88	.10	90	90	CODF 24
12/13/77	09:25	09:25	2.90	.10	91	91	CODF 27
12/13/77	09:32	09:32	6.90	.12	92	92	CODF 24
12/13/77	09:33	09:33	.88	.10	93	93	CODF 27
12/13/77	09:34	09:34	.90	.25	94	94	CODF 02
12/13/77	09:36	09:36	1.75	.12	95	95	CODF 03
12/13/77	09:39	09:39	2.88	.10	96	96	CODF 24
12/13/77	09:40	09:40	.90	.50	97	97	CODF 02
12/13/77	09:42	09:42	1.50	.25	98	98	CODF 02
12/13/77	09:43	09:43	.75	.12	99	99	CODF 27
12/13/77	09:45	09:45	1.88	.10	100	100	CODF 27
12/13/77	09:47	09:47	1.90	.13	101	101	CODF 02
12/13/77	09:49	09:49	1.87	.50	102	102	CODF 02
12/13/77	09:51	09:51	1.50	.13	103	103	CODF 02
12/13/77	09:53	09:53	1.87	.10	104	104	CODF 27
12/13/77	09:57	09:57	3.90	.12	105	105	CODF 02
12/13/77	10:20	10:20	5.88	2.40	106	106	CODF 29
12/13/77	10:24	10:24	1.60	.20	107	107	CODF 02
12/13/77	10:29	10:29	4.80	.12	108	108	CODF 24
12/13/77	10:30	10:30	.88	.25	109	109	CODF 24
12/13/77	10:31	10:31	.75	.12	110	110	CODF 24
12/13/77	10:32	10:32	.88	.13	111	111	CODF 02
12/13/77	10:38	10:38	5.87	.10	112	112	CODF 24
12/13/77	10:39	10:39	.90	.10	113	113	CODF 02
12/13/77	10:41	10:41	1.90	2.43	114	114	CODF 12
12/13/77	10:44	10:44	.57	.13	115	115	CODF 02
12/13/77	10:46	10:46	1.87	.43	116	116	CODF 02

MODULE 1 = FUZE ASSEMBLY STATION 1 (CONTD)				STATION 301 AT KAAP			
DATE	START UP TIME	TIME DF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/13/77		10:49	2.57	.10	117	117	CDDF 24
12/13/77		10:56	6.90	.10	118	118	CDDF 27
12/13/77		11:04	7.90	1.10	119	119	CDDF 27
12/13/77		11:10	4.90	.10	120	120	CDDF 24
12/13/77		11:12	1.90	.10	121	121	CDDF 27
12/13/77		11:17	4.90	.10	122	122	CDDF 27
12/13/77		11:23	5.90	.10	123	123	CDDF 24
12/13/77		11:25	1.90	.10	124	124	CDDF 27
12/13/77		11:27	1.90	.25	125	125	CDDF 02
12/13/77		11:29	1.75	.40	126	126	CDDF 02
12/13/77		11:35	5.60	.53	127	127	CDDF 11
12/13/77		11:38	2.47	.10	128	128	CDDF 24
12/13/77		11:41	2.90	.10	129	129	CDDF 24
12/13/77		11:43	1.90	1.10	130	130	CDDF 02
12/13/77		11:50	5.90	.10	131	131	CDDF 24
12/13/77		12:37	15.90	.40	132	132	CDDF 03
12/13/77		12:40	2.60	.10	133	133	CDDF 24
12/13/77		12:41	.90	.10	134	134	CDDF 24
12/13/77		12:47	5.90	.13	135	135	CDDF 02
12/13/77		12:52	4.87	.10	136	136	CDDF 24
12/13/77		12:55	2.90	.13	137	137	CDDF 27
12/13/77		12:58	2.87	.10	138	138	CDDF 24
12/13/77		13:09	10.90	.13	139	139	CDDF 02
12/13/77		13:13	3.87	.10	140	140	CDDF 02
12/13/77		13:14	.90	.10	141	141	CDDF 24
12/13/77		13:16	1.90	.13	142	142	CDDF 27
12/13/77		13:23	6.87	.10	143	143	CDDF 24
12/13/77		13:24	.90	.20	144	144	CDDF 18
12/13/77		13:26	1.80	1.40	145	145	CDDF 02
12/13/77		13:31	3.60	.10	146	146	CDDF 24
12/13/77		13:32	.90	.13	147	147	CDDF 02
12/13/77		13:36	3.87	.12	148	148	CDDF 02
12/13/77		13:41	4.88	.10	149	149	CDDF 24
12/13/77		13:42	.90	.31	150	150	CDDF 02
12/13/77		13:45	2.67	.10	151	151	CDDF 24
12/13/77		13:51	5.90	.12	152	152	CDDF 02
12/13/77		13:53	1.88	.10	153	153	CDDF 02
12/13/77		14:21	10.90	.13	154	154	CDDF 02
12/13/77		14:29	7.87	.13	155	155	CDDF 02
12/13/77		14:30	.87	.11	156	156	CDDF 02

MODULE 1 = FUZE ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MOOF
12/13/77		14:34	3.87	.10	157	157	CODE 24
12/13/77		14:35	.90	.10	158	158	CODE 02
12/13/77		14:37	1.90	.10	159	159	CODE 24
12/13/77		14:41	3.90	.10	160	160	CODE 24
12/13/77		14:42	.90	.10	161	161	CODE 24
12/13/77		14:48	5.90	.10	162	162	CODE 27
12/13/77		14:59	10.90	.13	163	163	CODE 02
12/13/77		15:00	.87	.12	164	164	CODE 02
12/13/77		15:01	.88	.10	165	165	CODE 24
12/13/77		15:02	.90	.10	166	166	CODE 27
12/13/77		15:07	4.90	.10	167	167	CODE 02
12/13/77		15:13	5.90	.10	168	168	CODE 24
12/13/77		15:16	2.90	.10	169	169	CODE 24
12/13/77		15:17	.90	.20	170	170	CODE 24
12/13/77		15:18	.80	.10	171	171	CODE 02
12/13/77		15:19	.90	.07	172	172	CODE 02
12/13/77		15:24	4.93	.33	173	173	CODE 24
12/13/77		15:29	4.67	.20	174	174	CODE 02
12/13/77		15:31	1.80	1.00	175	175	CODE 27
12/13/77		15:35	3.00	.20	176	176	CODE 24
12/13/77		15:40	4.80	.23	177	177	CODE 02
12/13/77		15:41	.77	.28	178	178	CODE 02
12/13/77		15:42	.72	1.13	179	179	CODE 02
12/13/77		15:44	.87	.33	180	180	CODE 02
12/13/77		15:45	.67	.28	181	181	CODE 02
12/13/77		15:47	1.72	.53	182	182	CODE 02
12/13/77		15:49	1.47	1.00	183	183	CODE 02
12/13/77			END OF SHIFT AT 15:50				
12/14/77	08:00						
12/14/77		08:09	9.00	.68	184	184	CODE 12
12/14/77		08:10	.32	.25	185	185	CODE 24
12/14/77		08:14	3.75	.20	186	186	CODE 24
12/14/77		08:15	.80	.20	187	187	CODE 12
12/14/77		08:16	.80	.25	188	188	CODE 24
12/14/77		08:17	.75	.25	189	189	CODE 24
12/14/77		08:18	.75	.50	190	190	CODE 12
12/14/77		08:19	.50	1.20	191	191	CODE 24
12/14/77		08:21	.80	.25	192	192	CODE 12
12/14/77		08:22	.75	.25	193	193	CODE 12

MODULE 1 = FUZE ASSEMBLY STATION 1			(CONTD)		STATION 301 AT KAAP		
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/14/77		08:23	.75	.33	194	194	CODF 12
12/14/77		08:24	.67	.5A	195	195	CODF 03
12/14/77		08:29	4.42	.63	196	196	CODF 24
12/14/77		08:33	3.37	.25	197	197	CODF 24
12/14/77		08:34	.75	.50	19A	19A	CODF 03
12/14/77		08:35	.50	.75	199	199	CODF 03
12/14/77		08:3A	2.25	1.00	200	200	CODF 12
12/14/77		08:45	6.00	.25	201	201	CODF 24
12/14/77		08:46	.75	.33	202	202	CODF 12
12/14/77		08:47	.67	4.8A	203	203	CODF 12
12/14/77		08:53	1.12	.2A	204	204	CODF 12
12/14/77		08:54	.72	.25	205	205	CODF 24
12/14/77		08:55	.75	.5A	206	206	CODF 12
12/14/77		08:57	1.42	.33	207	207	CODF 12
12/14/77		09:01	3.67	.33	20A	20A	CODF 24
12/14/77		09:02	.67	.63	209	209	CODF 28
12/14/77		09:05	2.37	.50	210	210	CODF 12
12/14/77		09:08	2.50	.40	211	211	CODF 12
12/14/77		09:11	2.60	.33	212	212	CODF 24
12/14/77		09:15	3.67	.40	213	213	CODF 12
12/14/77		09:18	2.60	.25	214	214	CODF 24
12/14/77		09:19	.75	.25	215	215	CODF 24
12/14/77		09:21	1.75	.25	216	216	CODF 24
12/14/77		09:22	.75	1.20	217	217	CODF 24
12/14/77		09:28	4.80	.2A	21A	218	CODF 12
12/14/77		09:29	.72	.25	219	219	CODF 24
12/14/77		09:30	.75	.40	220	220	CODF 24
12/14/77		09:33	2.60	.50	221	221	CODF 24
12/14/77		09:35	1.50	.40	222	222	CODF 18
12/14/77		09:37	1.60	.50	223	223	CODF 1A
12/14/77		09:3A	.50	3.00	224	224	CODF 11
12/14/77		09:42	1.00	.33	225	225	CODF 02
12/14/77		09:43	.67	.63	226	226	CODF 12
12/14/77		09:4A	3.37	.40	227	227	CODF 24
12/14/77		09:49	.60	.63	22A	22A	CODF 18
12/14/77		09:50	.37	.6A	229	229	CODF 28
12/14/77		09:51	.32	4.50	230	230	CODF 28
12/14/77		10:20	9.50	.5A	231	231	CODF 12
12/14/77		10:21	.42	.53	232	232	CODF 24
12/14/77		10:24	2.47	.2A	233	233	CODF 18

MODULE 1 = FUZE ASSEMBLY STATION 1			(CONTD)		STATION 301 AT KAAP		
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MOOF
12/14/77	10:28	3:72	.25	234	234	234	CONF 24
12/14/77	10:32	3:75	.25	235	235	235	CONF 24
12/14/77	10:34	1:75	.33	236	236	236	CONF 03
12/14/77	10:36	1:67	1:00	237	237	237	CONF 18
12/14/77	10:39	2:00	1:33	238	238	238	CONF 03
12/14/77	10:43	2:67	.25	239	239	239	CONF 24
12/14/77	10:45	1:75	.20	240	240	240	CONF 24
12/14/77	10:46	.80	1:40	241	241	241	CONF 12
12/14/77	10:48	.60	.25	242	242	242	CONF 24
12/14/77	10:53	4:75	.25	243	243	243	CONF 24
12/14/77	10:54	.75	.83	244	244	244	CONF 28
12/14/77	10:56	1:17	1:00	245	245	245	CONF 28
12/14/77	10:59	2:00	.75	246	246	246	CONF 18
12/14/77	11:06	6:25	.28	247	247	247	CONF 12
12/14/77	11:08	1:72	.25	248	248	248	CONF 24
12/14/77	11:09	.75	.53	249	249	249	CONF 03
12/14/77	11:10	.47	.80	250	250	250	CONF 03
12/14/77	11:11	.20	.50	251	251	251	CONF 03
12/14/77	11:17	5:50	.25	252	252	252	CONF 24
12/14/77	11:27	9:75	.20	253	253	253	CONF 24
12/14/77	11:30	2:80	.25	254	254	254	CONF 24
12/14/77	11:37	6:75	.33	255	255	255	CONF 03
12/14/77	11:48	10:67	.25	256	256	256	CONF 24
12/14/77	12:37	48:75	.20	257	257	257	CONF 24
12/14/77	12:38	.80	1:50	258	258	258	CONF 03
12/14/77	12:41	1:50	.50	259	259	259	CONF 03
12/14/77	12:44	2:50	.43	260	260	260	CONF 12
12/14/77	12:50	5:57	.50	261	261	261	CONF 12
12/14/77	12:52	1:50	.25	262	262	262	CONF 24
12/14/77	13:03	10:75	.25	263	263	263	CONF 24
12/14/77	13:04	.75	.20	264	264	264	CONF 24
12/14/77	13:17	12:80	.25	265	265	265	CONF 24
12/14/77	13:18	.75	.33	266	266	266	CONF 03
12/14/77	13:19	.67	.58	267	267	267	CONF 12
12/14/77	13:25	5:42	.20	268	268	268	CONF 24
12/14/77	13:30	4:80	.25	269	269	269	CONF 24
12/14/77	13:36	5:75	.33	270	270	270	CONF 12
12/14/77	13:37	.67	.33	271	271	271	CONF 18
12/14/77	13:40	2:67	.50	272	272	272	CONF 11
12/14/77	13:42	1:50	.25	273	273	273	CONF 24

MODULE 1 = FU7E ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/14/77		13:45	2:75	.25	274	274	CODF 24
12/14/77		13:48	2:75	.43	275	275	CODF 12
12/14/77		14:20	16:57	.83	276	276	CODF 12
12/14/77		14:24	3:17	2:25	277	277	CODF 12
12/14/77		14:27	.75	.5A	278	278	CODF 28
12/14/77		14:28	.42	1:43	279	279	CODF 02
12/14/77		14:30	.57	.53	280	280	CODF 12
12/14/77		14:32	1:47	1:40	281	281	CODF 1A
12/14/77		14:34	.60	1:6A	282	282	CODF 12
12/14/77		14:37	1:32	.53	283	283	CODF 12
12/14/77		14:42	4:47	.25	284	284	CODF 24
12/14/77		14:52	9:75	.25	285	285	CODF 24
12/14/77		14:55	2:75	.63	286	286	CODF 12
12/14/77		14:56	.37	.53	287	287	CODF 12
12/14/77		14:59	2:47	.25	288	288	CODF 24
12/14/77		15:03	3:75	1:2A	289	289	CODF 02
12/14/77		15:05	.72	.6A	290	290	CODF 03
12/14/77		15:13	7:32	.20	291	291	CODF 24
12/14/77		15:15	1:80	.20	292	292	CODF 24
12/14/77		15:17	1:80	.25	293	293	CODF 24
12/14/77		15:28	10:75	.25	294	294	CODF 24
12/14/77		15:30	1:75	.20	295	295	CODF 24
12/14/77		15:31	.80	1:40	296	296	CODF 12
12/14/77		15:33	.60	1:20	297	297	CODF 12
12/14/77		15:37	2:80	.20	298	298	CODF 12
12/14/77		15:39	1:80	.25	299	299	CODF 02
12/14/77		15:43	3:75	.25	300	300	CODF 24
12/14/77			END OF SHIFT AT 15:50				
12/15/77	08:00						
12/15/77		08:03	9:75	.88	301	301	CODF 18
12/15/77		08:07	3:12	1:13	302	302	CODF 12
12/15/77		08:09	.87	.40	303	303	CODF 12
12/15/77		08:11	1:60	.25	304	304	CODF 24
12/15/77		08:13	1:75	.2A	305	305	CODF 12
12/15/77		08:18	4:72	.25	306	306	CODF 24
12/15/77		08:20	1:75	9:00	307	307	CODF 29
12/15/77		08:32	3:00	2:2A	308	308	CODF 03
12/15/77		08:37	2:72	.25	309	309	CODF 24
12/15/77		08:38	.75	1:75	310	310	CODF 11

MODULE 1 = FUZE ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODUL FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/15/77	08:40		.25	1.28	311	311	CODE 11
12/15/77	08:42		.72	.25	312	312	CODE 24
12/15/77	08:46		3.75	.25	313	313	CODE 24
12/15/77	08:47		.75	.28	314	314	CODE 24
12/15/77	08:51		3.72	.28	315	315	CODE 24
12/15/77	08:53		1.72	.20	316	316	CODE 24
12/15/77	08:57		3.80	.25	317	317	CODE 24
12/15/77	09:01		3.75	.33	318	318	CODE 12
12/15/77	09:03		1.67	.93	319	319	CODE 12
12/15/77	09:08		4.07	.53	320	320	CODE 12
12/15/77	09:09		.47	.25	321	321	CODE 24
12/15/77	09:37		12.55	.25	322	322	CODE 24
12/15/77	09:42		4.75	.20	323	323	CODE 24
12/15/77	09:43		.80	.50	324	324	CODE 12
12/15/77	09:44		.50	.88	325	325	CODE 12
12/15/77	09:45		.12	.43	326	326	CODE 12
12/15/77	09:46		.57	.75	327	327	CODE 12
12/15/77	09:48		1.25	.43	328	328	CODE 27
12/15/77	09:52		3.57	.80	329	329	CODE 12
12/15/77	10:21		28.20	.40	330	330	CODE 02
12/15/77	10:22		.60	1.10	331	331	CODE 12
12/15/77	10:31		7.90	.20	332	332	CODE 24
12/15/77	10:49		17.80	.25	333	333	CODE 24
12/15/77	11:14		4.50	.88	334	334	CODE 11
12/15/77	11:16		1.12	.68	335	335	CODE 11
12/15/77	11:17		.32	1.50	336	336	CODE 11
12/15/77	11:21		2.50	.25	337	337	CODE 24
12/15/77	11:25		3.75	.25	338	338	CODE 24
12/15/77	11:26		.75	.28	339	339	CODE 24
12/15/77	11:35		8.72	.40	340	340	CODE 02
12/15/77	11:37		1.60	.25	341	341	CODE 24
12/15/77	12:30		.75	15.00	342	342	CODE 11
12/15/77	12:48		3.00	1.20	343	343	CODE 12
12/15/77	12:53		3.80	.58	344	344	CODE 12
12/15/77	12:55		1.42	.20	345	345	CODE 02
12/15/77	12:59		3.80	.25	346	346	CODE 24
12/15/77	13:03		3.75	.20	347	347	CODE 24
12/15/77	13:06		2.80	.40	348	348	CODE 12
12/15/77	13:10		3.60	.88	349	349	CODE 12
12/15/77	13:14		3.12	.43	350	350	CODE 24

MODUL F 1 = FU7F ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MONF
12/15/77	13:15	.57		3.10	351	351	CODE 12
12/15/77	13:19	.90		.43	352	352	CODE 12
12/15/77	13:20	.57		.40	353	353	CODE 12
12/15/77	13:21	.60		1.20	354	354	CODE 24
12/15/77	13:23	.80		.25	355	355	CODE 24
12/15/77	13:25	1.75		.20	356	356	CODE 24
12/15/77	13:26	.80		.20	357	357	CODE 24
12/15/77	13:28	1.80		2.24	358	358	CODE 12
12/15/77	13:31	.72		.50	359	359	CODE 12
12/15/77	13:32	.50		.80	360	360	CODE 12
12/15/77	13:33	.20		2.50	361	361	CODE 12
12/15/77	13:41	5.50		1.25	362	362	CODE 12
12/15/77	13:55	12.75		.53	363	363	CODE 12
12/15/77	14:18	7.47		2.20	364	364	CODE 11
12/15/77	14:28	7.80		.25	365	365	CODE 24
12/15/77	14:33	4.75		1.64	366	366	CODE 03
12/15/77	14:36	1.32		.40	367	367	CODE 24
12/15/77	14:38	1.60		.80	368	368	CODE 04
12/15/77	14:40	1.20		.63	369	369	CODE 04
12/15/77	14:42	1.37		.54	370	370	CODE 04
12/15/77	14:47	4.42		1.00	371	371	CODE 04
12/15/77	14:48	0.00		2.84	372	372	CODE 29
12/15/77	14:57	6.12		.50	373	373	CODE 12
12/15/77	14:59	1.50		.84	374	374	CODE 04
12/15/77	15:01	1.12		1.20	375	375	CODE 12
12/15/77	15:03	.80		.43	376	376	CODE 12
12/15/77	15:04	.57		.63	377	377	CODE 03
12/15/77	15:06	1.37		1.13	378	378	CODE 12
12/15/77	15:08	.87		3.84	379	379	CODE 29
12/15/77	15:14	2.12		.43	380	380	CODE 12
12/15/77	15:19	4.57		5.54	381	381	CODE 12
12/15/77	15:31	6.42		.20	382	382	CODE 24
12/15/77	15:35	3.80		2.20	383	383	CODE 12
12/15/77	15:41	3.80		.24	384	384	CODE 24
END OF SHIFT AT 15:45							
12/16/77	08:00						
12/16/77	08:03	6.72		.25	385	385	CODE 24
12/16/77	08:05	1.75		1.20	386	386	CODE 29
12/16/77	08:19	9.05		8.80	387	387	MAKF ADJUSTMENTS TO CLUTCH

MODULE 1 = FUZE ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/16/77		08:35	7.20	1.68	388	388	CODF 12
12/16/77		08:37	.32	.58	389	389	CODF 24
12/16/77		08:38	.42	.53	390	390	CODF 12
12/16/77		08:39	.47	.50	391	391	CODF 12
12/16/77		08:40	.50	.75	392	392	CODF 12
12/16/77		08:41	.25	.40	393	393	CODF 24
12/16/77		08:45	3.60	.25	394	394	CODF 24
12/16/77		08:50	4.75	5.53	395	395	CODF 29
12/16/77		08:57	1.47	.75	396	396	CODF 12
12/16/77		09:01	3.25	.58	397	397	CODF 12
12/16/77		09:05	3.42	2.80	398	398	CODF 12
12/16/77		09:09	1.20	1.25	399	399	CODF 12
12/16/77		09:13	2.75	.20	400	400	CODF 24
12/16/77		09:15	1.80	.25	401	401	CODF 24
12/16/77		09:20	4.75	.58	402	402	CODF 12
12/16/77		09:30	9.42	.25	403	403	CODF 24
12/16/77		10:21	15.75	.25	404	404	CODF 24
12/16/77		10:30	8.75	.50	405	405	CODF 12
12/16/77		10:35	4.50	.58	406	406	CODF 24
12/16/77		10:36	.42	.53	407	407	CODF 12
12/16/77		10:41	4.47	.43	408	408	CODF 12
12/16/77		10:42	.57	.93	409	409	CODF 12
12/16/77		10:45	2.07	.25	410	410	CODF 24
12/16/77		10:46	.75	.80	411	411	CODF 03
12/16/77		10:50	3.20	.63	412	412	CODF 12
12/16/77		10:57	6.37	.33	413	413	CODF 24
12/16/77		10:58	.67	.20	414	414	CODF 24
12/16/77		11:00	1.80	2.20	415	415	CODF 12
12/16/77		11:04	1.80	.25	416	416	CODF 24
12/16/77		11:11	6.75	.80	417	417	CODF 12
12/16/77		11:14	2.20	.25	418	418	CODF 24
12/16/77		11:19	4.75	1.20	419	419	CODF 18
12/16/77		11:24	3.80	.20	420	420	CODF 24
12/16/77		11:25	.80	.43	421	421	CODF 12
12/16/77		11:28	2.57	.88	422	422	CODF 03
12/16/77		11:37	8.12	1.20	423	423	CODF 12
12/16/77		11:45	6.80	.25	424	424	CODF 24
12/16/77		11:52	6.75	1.58	425	425	CODF 03
12/16/77		12:42	18.42	.40	426	426	CODF 12
12/16/77		12:46	3.60	.75	427	427	CODF 18

MODULE 1 = FU7F ASSEMBLY STATION 1 (CONTD) STATION 301 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/16/77		12:48	1.25	.50	428	428	CODE 02
12/16/77		12:50	1.50	.2A	429	429	CODE 24
12/16/77		12:53	2.72	.25	430	430	CODE 24
12/16/77		12:57	3.75	.40	431	431	CODE 18
12/16/77		13:02	4.60	.43	432	432	CODE 18
12/16/77		13:05	2.57	.25	433	433	CODE 24
12/16/77		13:09	3.75	2.33	434	434	CODE 12
12/16/77		13:22	10.67	.75	435	435	CODE 12
12/16/77		13:28	5.25	.68	436	436	CODE 24
12/16/77		13:30	1.32	.2A	437	437	CODE 24
12/16/77		13:36	5.72	.25	438	438	CODE 24
12/16/77		13:46	9.75	1.20	439	439	CODE 12
12/16/77		13:52	4.80	2.20	440	440	CODE 18
12/16/77		14:51	17.80	.25	441	441	CODE 24
12/16/77		14:52	.75	1.20	442	442	CODE 12
12/16/77		14:55	1.80	1.80	443	443	CODE 12
12/16/77		15:05	8.20	.33	444	444	CODE 12
12/16/77		15:06	.67	1.80	445	445	CODE 1A
12/16/77		15:13	5.20	.25	446	446	CODE 24
12/16/77		15:14	.75	.50	447	447	CODE 18
12/16/77		15:15	.50	.25	448	448	CODE 24
12/16/77							

END OF SHIFT AT 15:15

MODULE 2 = FUZE ASSEMBLY STATION 2

STATION 302 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/12/77	08:00	08:05	5.00	.50	1	449	CODF 12
12/12/77		08:10	4.50	.28	2	450	CODF 27
12/12/77		08:15	4.72	.20	3	451	CODF 12
12/12/77		08:18	2.80	1.20	4	452	CODF 07
12/12/77		08:27	7.80	.20	5	453	CODF 24
12/12/77		08:28	.80	.20	6	454	CODF 24
12/12/77		08:29	.80	.33	7	455	CODF 24
12/12/77		08:31	1.67	.13	8	456	CODF 24
12/12/77		08:36	4.87	.20	9	457	CODF 12
12/12/77		08:48	11.80	1.33	10	458	CODF 27
12/12/77		08:57	7.67	.10	11	459	CODF 27
12/12/77		09:16	18.90	.20	12	460	CODF 24
12/12/77		09:30	11.55	.53	13	461	CODF 12
12/12/77		09:37	6.47	.25	14	462	CODF 24
12/12/77		09:39	1.75	1.10	15	463	CODF 27
12/12/77		09:51	10.90	.25	16	464	CODF 24
12/12/77		10:28	21.35	.25	17	465	CODF 02
12/12/77		10:52	23.75	.25	18	466	CODF 12
12/12/77		10:56	3.75	.20	19	467	CODF 24
12/12/77		10:59	2.80	.25	20	468	CODF 12
12/12/77		11:27	27.75	.40	21	469	CODF 24
12/12/77		11:47	19.60	.28	22	470	CODF 24
12/12/77		12:32	14.72	0.00	23	471	CODF 27
12/12/77		12:38	6.00	.28	24	472	TAPF CAUGHT ON BODY EFFECT
12/12/77		12:48	9.72	.53	25	473	CODF 12
12/12/77		12:51	2.47	.20	26	474	CODF 12
12/12/77		12:53	1.80	.53	27	475	CODF 02
12/12/77		12:55	1.47	.40	28	476	CODF 12
12/12/77		13:29	33.60	.28	29	477	CODF 17
12/12/77		13:44	14.72	.20	30	478	CODF 24
12/12/77		14:20	20.80	2.33	31	479	CODF 12
12/12/77		14:26	3.67	.33	32	480	CODF 12
12/12/77		14:35	8.67	1.00	33	481	CODF 12
12/12/77		14:37	1.00	.25	34	482	CODF 12
12/12/77		14:54	16.75	3.40	35	483	CODF 15
12/12/77		15:04	6.60	4.50	36	484	CODF 11
12/12/77		15:16	7.50	.25	37	485	CODF 02
12/12/77		15:17	.75	.33	38	486	CODF 24
12/12/77		15:28	10.67	1.43	39	487	CODF 07

MODULE 2 = FU7F ASSEMBLY STATION 2 (CONTD) STATION 302 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/12/77		15:31	1.57	.25	40	488	CODF 07
12/12/77		15:34	2.75	.13	41	489	CODF 28
12/12/77		15:44	9.87	.28	42	490	CODF 17
12/12/77		15:45	.72	.40	43	491	CODF 02
12/12/77		15:49	3.60	.25	44	492	CODF 27
END OF SHIFT AT 15:54							
12/13/77	08:00						
12/13/77		08:11	15.75	.20	45	493	CODF 24
12/13/77		08:16	4.80	.25	46	494	CODF 27
12/13/77		08:46	29.42	5.50	47	495	CODF 25
12/13/77		08:56	4.50	.25	48	496	CODF 24
12/13/77		08:59	2.75	.20	49	497	CODF 18
12/13/77		09:14	14.80	.25	50	498	CODF 27
12/13/77		09:20	5.75	.25	51	499	CODF 27
12/13/77		09:22	1.75	.20	52	500	CODF 24
12/13/77		09:31	8.80	.43	53	501	CODF 25
12/13/77		09:36	4.57	.20	54	502	CODF 27
12/13/77		09:39	2.80	.13	55	503	CODF 12
12/13/77		09:40	.87	1.33	56	504	CODF 16
12/13/77		09:54	12.67	.20	57	505	CODF 27
12/13/77		10:20	10.80	.40	58	506	CODF 29
12/13/77		10:22	1.60	9.25	59	507	CODF 29
12/13/77		10:40	8.75	.28	60	508	CODF 12
12/13/77		10:48	7.72	.25	61	509	CODF 24
12/13/77		10:50	1.75	2.20	62	510	CODF 04
12/13/77		10:57	4.80	2.43	63	511	CODF 12
12/13/77		11:01	1.57	1.13	64	512	CODF 12
12/13/77		11:04	1.87	.28	65	513	CODF 12
12/13/77		11:05	.72	2.25	66	514	CODF 27
12/13/77		11:14	6.75	.20	67	515	CODF 27
12/13/77		11:18	3.80	.25	68	516	CODF 27
12/13/77		11:29	10.75	.20	69	517	CODF 12
12/13/77		11:35	5.80	1.50	70	518	CODF 28
12/13/77		11:39	2.50	1.25	71	519	CODF 28
12/13/77		11:44	3.75	.13	72	520	CODF 12
12/13/77		11:51	6.87	.40	73	521	CODF 24
12/13/77		12:32	10.60	.40	74	522	CODF 24
12/13/77		12:52	19.60	.20	75	523	CODF 02
12/13/77		12:55	2.80	.28	76	524	CODF 02

MODULE 2 = FUZE ASSEMBLY STATION 2 (CONTD) STATION 302 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/13/77		13:02	6.72	.20	77	525	CODF 12
12/13/77		13:15	12.80	.13	78	526	CODF 24
12/13/77		13:17	1.87	.25	79	527	CODF 03
12/13/77		13:19	1.75	.25	80	528	RODY DOWN ON INFEED
12/13/77		14:56	81.32	1.40	81	529	CODF 12
12/13/77		15:00	2.60	1.20	82	530	CODF 02
12/13/77		15:12	10.80	.25	83	531	CODF 27
12/13/77		15:20	7.75	.25	84	532	CODF 24
12/13/77		15:25	4.75	.28	85	533	CODF 24
12/13/77		15:27	1.72	.53	86	534	CODF 24
12/13/77		15:44	16.47	.13	87	535	CODF 18
12/13/77		15:47	2.87	.33	88	536	CODF 27
12/13/77			END OF SHIFT AT 15:50				
12/14/77	08:00						
12/14/77		08:13	15.67	.25	89	537	CODF 24
12/14/77		08:14	.75	1.20	90	538	CODF 24
12/14/77		08:16	.80	.10	91	539	CODF 24
12/14/77		08:17	.90	.28	92	540	CODF 02
12/14/77		08:23	5.72	.13	93	541	CODF 24
12/14/77		08:40	16.87	.28	94	542	CODF 24
12/14/77		08:43	2.72	.13	95	543	CODF 27
12/14/77		08:44	.87	.25	96	544	CODF 24
12/14/77		08:54	9.65	.13	97	545	CODF 18
12/14/77		08:56	1.87	.25	98	546	CODF 24
12/14/77		08:59	2.75	.28	99	547	CODF 24
12/14/77		09:02	2.72	.25	100	548	CODF 18
12/14/77		09:05	2.75	.20	101	549	CODF 24
12/14/77		09:17	11.80	.25	102	550	CODF 17
12/14/77		09:18	.75	.50	103	551	CODF 23
12/14/77		09:20	1.50	1.43	104	552	CODF 29
12/14/77		09:26	2.57	.20	105	553	CODF 24
12/14/77		09:27	.80	.13	106	554	CODF 24
12/14/77		09:35	7.87	.13	107	555	CODF 18
12/14/77		09:50	14.87	.20	108	556	CODF 03
12/14/77		09:53	2.67	.20	109	557	CODF 24
12/14/77		09:54	.80	2.10	110	558	CODF 27
12/14/77		10:16	4.90	.28	111	559	CODF 24
12/14/77		10:17	.72	.33	112	560	CODF 27
12/14/77		10:21	3.67	.20	113	561	CODF 18

MODULE 2 = FU7F ASSEMBLY STATION 2 (CONTD) STATION 302 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBFR	SYSTEM FAILURE NUMBFR	FAILURE MONF
12/14/77		10:30	8.80	.33	114	562	CODF 17
12/14/77		10:45	14.67	.28	115	563	CODF 25
12/14/77		10:48	2.72	.13	116	564	CODF 24
12/14/77		10:53	4.87	1.00	117	565	CODF 27
12/14/77		10:54	0.00	.50	118	566	CODF 17
12/14/77		10:55	.50	.28	119	567	CODF 24
12/14/77		10:57	1.72	.28	120	568	CODF 27
12/14/77		11:02	4.72	.53	121	569	CODF 12
12/14/77		11:43	40.47	.25	122	570	CODF 12
12/14/77		12:38	24.75	.43	123	571	CODF 27
12/14/77		12:43	4.57	.13	124	572	CODF 27
12/14/77		12:50	6.87	.28	125	573	CODF 24
12/14/77		12:57	6.72	1.00	126	574	CODF 12
12/14/77		12:59	1.00	.43	127	575	CODF 03
12/14/77		13:01	1.57	.40	128	576	CODF 28
12/14/77		13:02	.60	1.05	129	577	CODF 17
12/14/77		13:05	1.95	.20	130	578	CODF 24
12/14/77		13:06	.80	.20	131	579	CODF 24
12/14/77		13:07	.80	.13	132	580	CODF 24
12/14/77		13:14	6.87	.40	133	581	CODF 12
12/14/77		13:15	.60	.20	134	582	CODF 02
12/14/77		13:21	5.80	.20	135	583	CODF 24
12/14/77		13:26	4.80	.20	136	584	CODF 24
12/14/77		13:43	16.80	.25	137	585	CODF 24
12/14/77		13:50	6.75	1.28	138	586	CODF 11
12/14/77		14:17	10.72	.28	139	587	CODF 27
12/14/77		14:30	12.72	.50	140	588	CODF 12
12/14/77		14:39	8.50	.25	141	589	CODF 12
12/14/77		14:47	7.75	.25	142	590	CODF 24
12/14/77		14:54	6.75	.13	143	591	CODF 24
12/14/77		15:07	12.87	.20	144	592	CODF 24
12/14/77		15:08	.80	.28	145	593	CODF 02
12/14/77		15:10	1.72	.13	146	594	CODF 24
12/14/77		15:16	5.87	.13	147	595	CODF 24
12/14/77		15:23	2.73	.33	148	596	CODF 29
12/14/77		15:24	.67	4.50	149	597	CODF 29
12/14/77		15:42	13.50	.20	150	598	CODF 27
12/14/77		15:49	6.80	.13	151	599	CODF 24
12/14/77		15:50	.87	.13	152	600	CODF 24

END OF SHIFT AT 15:54

MODULE 2 = FUZE ASSEMBLY STATION 2 (CONTD) STATION 302 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/15/77	08:00	08:02	5.87	.53	153	601	CONF 24
12/15/77		08:09	6.47	.20	154	602	CONF 24
12/15/77		08:10	.80	.20	155	603	CONF 24
12/15/77		08:17	5.47	.28	156	604	CONF 24
12/15/77		08:31	13.72	.28	157	605	CONF 07
12/15/77		08:36	4.72	.13	158	606	CONF 24
12/15/77		08:38	1.87	.25	159	607	CONF 27
12/15/77		08:43	4.75	.20	160	608	CONF 24
12/15/77		08:55	11.80	.25	161	609	CONF 02
12/15/77		08:57	1.75	.28	162	610	CONF 27
12/15/77		09:14	16.38	.25	163	611	CONF 24
12/15/77		09:16	1.75	1.20	164	612	CONF 12
12/15/77		09:22	4.80	.20	165	613	CONF 27
12/15/77		09:26	3.80	.28	166	614	CONF 02
12/15/77		10:17	35.43	.43	167	615	CONF 12
12/15/77		10:24	6.57	.20	168	616	CONF 24
12/15/77		10:27	2.80	3.20	169	617	CONF 11
12/15/77		10:31	.80	.25	170	618	CONF 12
12/15/77		10:32	.75	.25	171	619	CONF 27
12/15/77		10:34	1.75	2.00	172	620	CONF 15
12/15/77		10:38	2.00	.28	173	621	CONF 24
12/15/77		10:39	.72	.20	174	622	CONF 27
12/15/77		10:41	1.80	.13	175	623	CONF 24
12/15/77		10:58	16.87	.25	176	624	CONF 12
12/15/77		11:03	4.75	.40	177	625	CONF 03
12/15/77		11:05	1.60	.13	178	626	CONF 02
12/15/77		11:06	.87	1.13	179	627	CONF 11
12/15/77		11:08	.87	.20	180	628	CONF 24
12/15/77		11:13	4.80	.25	181	629	CONF 24
12/15/77		11:17	3.75	.20	182	630	CONF 24
12/15/77		12:52	64.80	.25	183	631	CONF 12
12/15/77		13:08	15.75	.28	184	632	CONF 24
12/15/77		13:15	6.72	.40	185	633	CONF 24
12/15/77		13:17	1.60	.13	186	634	CONF 27
12/15/77		13:18	.87	.40	187	635	CONF 02
12/15/77		13:19	.60	.33	188	636	CONF 12
12/15/77		13:22	2.67	.25	189	637	CONF 24
12/15/77		13:23	.75	.13	190	638	FALSF LIGHT
12/15/77		13:24	.87	.13	191	639	CONF 02

MODULE 2 = FUTE ASSEMBLY STATION 2 (CONTD) STATION 302 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/15/77		13:28	3.87	.28	192	640	CODF 12
12/15/77		13:31	2.72	.13	193	641	CODF 24
12/15/77		13:36	4.87	.53	194	642	CODF 12
12/15/77		13:40	3.47	.43	195	643	CODF 25
12/15/77		13:47	6.57	.20	196	644	CODF 24
12/15/77		13:53	5.80	.25	197	645	CODF 12
12/15/77		13:58	4.75	.33	198	646	CODF 24
12/15/77		14:17	3.67	.28	199	647	CODF 27
12/15/77		14:30	12.72	.28	200	648	CODF 12
12/15/77		14:31	.72	.20	201	649	CODF 24
12/15/77		14:42	10.40	.13	202	650	CODF 24
12/15/77		14:43	.87	.33	203	651	CODF 12
12/15/77		14:44	.67	.33	204	652	CODF 12
12/15/77		14:45	.67	.43	205	653	CODF 12
12/15/77		14:48	2.57	.13	206	654	CODF 27
12/15/77		14:53	4.87	.20	207	655	CODF 12
12/15/77		14:54	.80	.20	208	656	CODF 12
12/15/77		15:12	17.80	.43	209	657	CODF 07
12/15/77		15:17	4.57	.20	210	658	CODF 12
12/15/77		15:18	.80	.20	211	659	CODF 24
12/15/77		15:31	12.80	.13	212	660	CODF 27
12/15/77		15:36	4.87	.33	213	661	CODF 24
12/15/77		15:37	.67	.40	214	662	CODF 29
12/15/77		15:42	4.60	.40	215	663	CODF 27
END OF SHIFT AT 15:53							
12/16/77	08:00						
12/16/77		08:07	17.35	.20	216	664	CODF 24
12/16/77		08:17	9.80	.20	217	665	CODF 24
12/16/77		08:33	15.80	.33	218	666	CODF 24
12/16/77		08:34	.67	.28	219	667	CODF 12
12/16/77		08:35	.72	.25	220	668	CODF 24
12/16/77		08:37	1.75	.20	221	669	CODF 24
12/16/77		08:55	17.80	.25	222	670	CODF 24
12/16/77		08:59	3.75	.25	223	671	CODF 02
12/16/77		09:10	10.75	.20	224	672	CODF 24
12/16/77		09:17	6.80	.28	225	673	CODF 12
12/16/77		10:19	26.72	.28	226	674	CODF 12
12/16/77		10:42	22.72	.20	227	675	CODF 24
12/16/77		10:46	3.80	.13	228	676	CODF 24

MODULE 2 = FUZE ASSEMBLY STATION 2 (CONTD) STATION 302 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/16/77	11:00	13:87	.20		229	677	CODF 24
12/16/77	11:02	1:80	.20		230	678	CODF 24
12/16/77	11:04	1:80	.40		231	679	CODF 03
12/16/77	11:05	.60	.28		232	680	CODF 03
12/16/77	11:12	6:72	.13		233	681	CODF 24
12/16/77	11:16	3:87	.20		234	682	CODF 24
12/16/77	11:32	15:80	.20		235	683	CODF 24
12/16/77	11:46	13:80	.25		236	684	CODF 27
12/16/77	12:31	14:75	9.33		237	685	CODF 11
12/16/77	12:54	13:67	.20		238	686	CODF 24
12/16/77	13:00	5:80	.20		239	687	CODF 24
12/16/77	13:08	7:80	.33		240	688	CODF 24
12/16/77	13:10	1:67	.25		241	689	CODF 24
12/16/77	13:12	.65	1.00		242	690	CODF 17
12/16/77	13:17	4:00	.13		243	691	CODF 27
12/16/77	13:18	.87	.20		244	692	CODF 24
12/16/77	13:23	4:80	.20		245	693	CODF 24
12/16/77	13:30	6:55	.25		246	694	CODF 12
12/16/77	13:35	4:75	.20		247	695	CODF 02
12/16/77	13:41	5:80	.25		248	696	CODF 24
12/16/77	13:49	7:75	.20		249	697	CODF 24
12/16/77	14:23	18:80	.28		250	698	CODF 27
12/16/77	14:26	2:72	.25		251	699	CODF 27
12/16/77	14:49	22:75	.28		252	700	CODF 12
12/16/77	END OF SHIFT AT 14:50						

STATION 305 AT KAAP

MODULE 3 = FU7F ASSEMBLY STATION 5

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBFP	SYSTEM FAILURE NUMFR	FAILURE MODE
11/2A/77	08:02	08:03	1.00	.40	1	701	CODF 12
11/2A/77		08:07	3.60	.50	2	702	CODF 21
11/2A/77		08:11	3.50	.28	3	703	CODF 12
11/2A/77		08:12	.72	.25	4	704	CODF 18
11/2A/77		08:15	2.75	.28	5	705	CODF 12
11/2A/77		08:17	1.72	.25	6	706	CODF 02
11/2A/77		08:18	.75	.75	7	707	CODF 25
11/2A/77		08:19	.25	.58	8	708	CODF 12
11/2A/77		08:20	.42	.83	9	709	CODF 12
11/2A/77		08:30	9.17	.20	10	710	CODF 18
11/2A/77		08:31	.80	.25	11	711	CODF 24
11/2A/77		08:34	2.75	.20	12	712	CODF 24
11/2A/77		08:45	10.80	.25	13	713	CODF 27
11/2A/77		08:47	1.75	5.63	14	714	CODF 11
11/2A/77		09:04	11.37	1.05	15	715	CODF 29
11/2A/77		09:40	34.95	.25	16	716	CODF 27
11/2A/77		10:26	30.75	.93	17	717	CODF 25
11/2A/77		10:28	1.07	.50	18	718	CODF 24
11/2A/77		10:30	1.50	.25	19	719	CODF 12
11/2A/77		10:31	.75	.20	20	720	CODF 24
11/2A/77		10:36	4.80	.50	21	721	CODF 27
11/2A/77		10:37	.50	.43	22	722	CODF 24
11/2A/77		10:40	2.57	.20	23	723	CODF 24
11/2A/77		10:42	1.80	.33	24	724	CODF 18
11/2A/77		10:50	7.67	.28	25	725	CODF 18
11/2A/77		10:55	4.72	.33	26	726	CODF 24
11/2A/77		10:56	.67	.25	27	727	CODF 24
11/2A/77		11:10	13.75	.43	28	728	CODF 12
11/2A/77		11:11	.57	.25	29	729	CODF 12
11/2A/77		11:12	.75	.40	30	730	CODF 18
11/2A/77		11:16	3.60	.63	31	731	CODF 25
11/2A/77		11:22	5.37	.28	32	732	CODF 12
11/2A/77		11:35	11.62	.28	33	733	CODF 24
11/2A/77		11:42	6.72	.33	34	734	CODF 24
11/2A/77		11:46	3.67	.53	35	735	CODF 25
11/2A/77		11:48	1.47	.28	36	736	CODF 24
11/2A/77		12:34	45.43	1.05	37	737	CODF 12
11/2A/77		12:36	.95	.33	38	738	CODF 24
11/2A/77		12:43	6.67	7.50	39	739	CODF 11

MODULE 3 = FUZE ASSEMBLY STATION 5 (CONTD)			STATION 305 AT KAAP				
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILUREF MODF
11/28/77		12:55	4:50	.63	40	740	CODE 12
11/28/77		12:57	1:37	.25	41	741	CODE 1A
11/28/77		13:00	2:75	.28	42	742	CODE 1A
11/28/77		13:01	.72	.50	43	743	CODE 25
11/28/77		13:16	14:50	.25	44	744	CODE 24
11/28/77		13:17	.75	.33	45	745	CODE 02
11/28/77		13:20	2:67	.25	46	746	CODE 12
11/28/77		13:23	2:75	.53	47	747	CODE 25
11/28/77		13:26	2:47	.5A	48	74A	CODE 24
11/28/77		13:46	14:98	.2A	49	749	CODE 24
11/28/77		13:47	.72	.33	50	750	CODE 24
11/28/77		13:52	4:67	.2A	51	751	CODE 12
11/28/77		14:17	8:72	.20	52	752	CODE 12
11/28/77		14:23	5:80	.50	53	753	CODE 24
11/28/77		14:26	2:50	1:05	54	754	CODE 25
11/28/77		14:30	2:95	3:80	55	755	CODE 21
11/28/77		14:34	.20	5:2A	56	756	ROKFN SPRING ON MAGNFT
11/28/77		14:40	.72	.53	57	757	CODE 1A
11/28/77		14:42	1:47	.40	5A	75A	CODE 27
11/28/77		14:45	2:60	.33	59	759	CODE 17
11/28/77		14:47	1:67	.83	60	760	CODE 25
11/28/77		14:49	1:17	.6A	61	761	CODE 1A
11/28/77		14:55	5:32	.25	62	762	CODE 24
11/28/77		14:57	1:75	.2A	63	763	CODE 18
11/28/77		14:5A	.72	.2A	64	764	CODE 1A
11/28/77		15:06	7:72	.40	65	765	CODE 24
11/28/77		15:10	3:60	.33	66	766	CODE 25
11/28/77		15:12	1:67	.6A	67	767	CODE 12
11/28/77		15:16	3:32	.25	6A	76A	CODE 24
11/28/77		15:18	1:75	.25	69	769	CODE 1A
11/28/77		15:20	1:75	.40	70	770	CODE 12
11/28/77		15:30	9:60	.63	71	771	CODE 12
11/28/77		15:35	4:37	.33	72	772	CODE 12
11/28/77		15:36	.67	.40	73	773	CODE 24
11/28/77		15:37	.60	.43	74	774	CODE 1A
11/28/77		15:40	2:57	.63	75	775	CODE 17
11/28/77		15:45	4:37	.43	76	776	CODE 1A
END OF SHIFT AT 15:51							
11/29/77	08:00						

MODULE 3 = FUZF ASSEMBLY STATION 5 (CONTD) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MOOE
11/29/77	08:05	08:05	6.57	.80	77	777	COOF 12
11/29/77	08:06	08:06	.20	.43	78	778	COOE 12
11/29/77	08:13	08:13	6.57	1.25	79	779	COOF 25
11/29/77	08:15	08:15	.75	1.68	80	780	COOE 16
11/29/77	08:18	08:18	1.32	.88	81	781	COOF 25
11/29/77	08:21	08:21	2.12	1.28	82	782	COOF 25
11/29/77	08:45	08:45	9.12	.20	83	783	CODE 18
11/29/77	08:50	08:50	4.80	.28	84	784	COOE 24
11/29/77	08:52	08:52	1.72	.25	85	785	COOE 24
11/29/77	09:16	09:16	23.75	1.53	86	786	COOF 12
11/29/77	09:18	09:18	.47	.68	87	787	COOF 12
11/29/77	09:27	09:27	8.07	.25	88	788	COOE 18
11/29/77	09:36	09:36	8.12	.25	89	789	COOE 24
11/29/77	09:38	09:38	1.75	.40	90	790	COOF 17
11/29/77	09:50	09:50	11.60	.28	91	791	CODE 24
11/29/77	09:51	09:51	.72	.20	92	792	CODE 18
11/29/77	10:21	10:21	14.80	.20	93	793	COOF 24
11/29/77	10:36	10:36	14.80	.33	94	794	COOE 24
11/29/77	10:53	10:53	16.67	.28	95	795	CODE 24
11/29/77	10:57	10:57	3.72	.28	96	796	COOF 12
11/29/77	11:05	11:05	6.18	.28	97	797	COOE 24
11/29/77	11:19	11:19	13.72	.40	98	798	COOF 27
11/29/77	11:20	11:20	.60	.50	99	799	COOF 04
11/29/77	11:21	11:21	.50	2.10	100	800	COOE 04
11/29/77	11:24	11:24	.90	1.05	101	801	COOF 18
11/29/77	11:27	11:27	1.95	.40	102	802	COOF 18
11/29/77	11:34	11:34	6.60	.25	103	803	COOE 24
11/29/77	12:37	12:37	32.75	.20	104	804	COOF 24
11/29/77	12:41	12:41	3.80	.25	105	805	COOE 24
11/29/77	12:44	12:44	2.75	.20	106	806	CODE 24
11/29/77	12:52	12:52	7.80	.68	107	807	COOF 24
11/29/77	12:57	12:57	4.32	.93	108	808	COOE 24
11/29/77	13:00	13:00	2.07	.20	109	809	COOF 27
11/29/77	13:07	13:07	6.80	.33	110	810	CODE 24
11/29/77	13:08	13:08	.67	.58	111	811	COOE 12
11/29/77	13:14	13:14	5.42	.68	112	812	CODE 24
11/29/77	13:29	13:29	14.32	.20	113	813	COOE 18
11/29/77	13:34	13:34	4.80	.28	114	814	COOF 03
11/29/77	13:46	13:46	11.72	.28	115	815	CODE 12
11/29/77	13:48	13:48	1.72	.28	116	816	CODE 12

MODULE 3 = FUZE ASSEMBLY STATION 5 (CONTD) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/29/77		14:23	19.72	.40	117	817	CODE 12
11/29/77		14:25	1.60	.43	118	818	CODE 11
11/29/77		14:30	4.57	.50	119	819	CODE 11
11/29/77		14:40	9.50	.28	120	820	CODE 18
11/29/77		14:44	3.72	.20	121	821	CODE 12
11/29/77		14:45	.80	.40	122	822	CODE 23
11/29/77		14:46	.60	3.88	123	823	CODE 23
11/29/77		14:52	2.12	.28	124	824	CODE 12
11/29/77		14:53	.72	.20	125	825	CODE 24
11/29/77		14:55	1.80	.20	126	826	CODE 12
11/29/77		14:58	2.80	.75	127	827	CODE 25
11/29/77		15:03	4.25	.28	128	828	CODE 18
11/29/77		15:12	8.72	.25	129	829	CODE 27
11/29/77		15:13	.75	.28	130	830	CODE 24
11/29/77		15:15	1.72	.20	131	831	CODE 12
11/29/77		15:19	3.80	.28	132	832	CODE 24
11/29/77		15:20	.72	.53	133	833	CODE 12
11/29/77		15:26	5.47	.88	134	834	CODE 12
11/29/77		15:32	5.12	.28	135	835	CODE 27
11/29/77		15:33	.72	.28	136	836	CODE 24
11/29/77		15:36	2.72	.25	137	837	CODE 24
11/29/77		15:37	.75	.20	138	838	CODE 18
11/29/77		15:42	4.80	.25	139	839	CODE 12
END OF SHIFT AT 15:49							
11/30/77	08:37	08:38	7.75	7.10	140	840	CODE 04
11/30/77		08:46	.90	.28	141	841	CODE 24
11/30/77		08:47	.72	.50	142	842	SAFETY SWITCH ON
11/30/77		08:48	.50	.80	143	843	CODE 02
11/30/77		08:49	.20	.53	144	844	CODE 12
11/30/77		08:55	5.47	4.20	145	845	CODE 11
11/30/77		08:60	.80	.81	146	846	CODE 24
11/30/77		09:03	2.17	.20	147	847	CODE 27
11/30/77		09:07	3.80	.43	148	848	CODE 24
11/30/77		09:08	.57	.28	149	849	CODE 24
11/30/77		09:09	.72	.58	150	850	CODE 11
11/30/77		09:10	.42	2.31	151	851	CODE 11
11/30/77		09:13	.67	.83	152	852	CODE 12
11/30/77		09:16	2.17	.88	153	853	CODE 12

MODULE 3 = FUZE ASSEMBLY STATION 5 (CONTD) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/30/77		09:17	.12	4.43	154	854	CODE 29
11/30/77		09:26	4.57	.25	155	855	CODE 24
11/30/77		09:31	4.75	.25	156	856	CODE 12
11/30/77		09:47	9.70	.33	157	857	CODE 24
11/30/77		09:49	1.67	.63	158	858	CODE 25
11/30/77		09:51	1.37	.50	159	859	CODE 03
11/30/77		10:21	14.50	.25	160	860	CODE 12
11/30/77		10:22	.75	.8A	161	861	CODE 24
11/30/77		10:27	4.12	.2A	162	862	CODE 18
11/30/77		10:42	7.32	3.83	163	863	CODE 29
11/30/77		10:47	1.17	.28	164	864	CODE 18
11/30/77		10:56	1.92	.25	165	865	CODE 24
11/30/77		11:01	4.75	.40	166	866	CODE 11
11/30/77		11:02	.60	.5A	167	867	CHAIN OUT OF TIME ADJUST
11/30/77		11:04	1.42	2.10	168	868	CODE 12
11/30/77		11:10	3.90	.6A	169	869	CODE 12
11/30/77		11:12	1.32	.33	170	870	CODE 12
11/30/77		11:29	16.67	.40	171	871	CODE 12
11/30/77		11:32	2.60	.25	172	872	CODE 12
11/30/77		11:33	.75	.20	173	873	CODE 12
11/30/77		11:36	2.80	.50	174	874	CODE 18
11/30/77		11:37	.50	.43	175	875	CODE 12
11/30/77		11:38	.57	.33	176	876	CODE 24
11/30/77		11:40	1.67	.5A	177	877	CODE 25
11/30/77		11:43	2.42	.25	178	878	CODE 18
11/30/77		11:47	3.75	.50	179	879	ADJUST PRESSURE ON HYDRAULIC PUMP
11/30/77		11:49	1.50	.25	180	880	CODE 18
11/30/77		12:37	17.75	.20	181	881	CODE 24
11/30/77		12:39	1.80	.25	182	882	CODE 18
11/30/77		12:42	2.75	.20	183	883	CODE 27
11/30/77		12:45	2.80	.20	184	884	CODE 24
11/30/77		12:47	1.80	.25	185	885	CODE 24
11/30/77		12:48	.75	.2A	186	886	CODE 18
11/30/77		12:49	.72	.43	187	887	CODE 29
11/30/77		12:52	2.57	.40	188	888	CODE 25
11/30/77		12:57	4.60	.43	189	889	CODE 24
11/30/77		13:00	2.57	1.05	190	890	CODE 25
11/30/77		13:13	11.95	.43	191	891	CODE 12
11/30/77		13:14	.57	1.05	192	892	CODE 12
11/30/77		13:16	.95	.33	193	893	CODE 18

MODULE 3 = FUZE ASSEMBLY STATION 5				(CONTD)		STATION 305 AT KAAP	
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
11/30/77		13:17	.67	2.10	194	894	CODF 02
11/30/77		13:30	1.62	.25	195	895	CODF 18
11/30/77		13:31	.75	.50	196	896	CODF 12
11/30/77		13:33	1.50	.31	197	897	CODF 12
11/30/77		13:35	1.67	.20	198	898	CODF 18
11/30/77		13:38	2.80	1.40	199	899	CODF 25
11/30/77		13:46	1.02	.43	200	900	RESFT SWITCH + REPLACE RODY
11/30/77		13:48	1.57	.20	201	901	CODF 18
11/30/77		13:50	1.80	1.43	202	902	CODF 12
11/30/77		13:57	5.57	.25	203	903	CODF 12
11/30/77		14:23	10.75	.25	204	904	CODF 12
11/30/77		14:25	1.75	.20	205	905	CODF 18
11/30/77		14:26	.80	.25	206	906	CODF 12
11/30/77		14:28	1.75	.28	207	907	CODF 24
11/30/77		14:31	2.72	.25	208	908	CODF 24
11/30/77		14:32	.75	.20	209	909	CODF 18
11/30/77		14:33	.80	5.28	210	910	CODF 16
11/30/77		14:39	.72	.83	211	911	CODF 02
11/30/77		14:43	3.17	.28	212	912	CODF 02
11/30/77		14:45	1.72	.20	213	913	CODF 02
11/30/77		14:46	.20	1.20	214	914	CODF 12
11/30/77		14:48	.80	.58	215	915	CODF 12
11/30/77		14:50	1.42	.43	216	916	CODF 05
11/30/77		14:51	.57	1.53	217	917	CODF 02
11/30/77		14:56	3.47	.31	218	918	CODF 02
11/30/77		14:58	1.67	.31	219	919	CODF 18
11/30/77		14:59	.67	2.10	220	920	CODF 11
11/30/77		15:02	.90	.53	221	921	CODF 02
11/30/77		15:03	.47	.31	222	922	CODF 02
11/30/77		15:05	1.67	.63	223	923	CODF 12
11/30/77		15:07	1.37	.40	224	924	CODF 24
11/30/77		15:27	3.55	1.00	225	925	CODF 12
11/30/77		15:28	0.00	.28	226	926	CODF 24
11/30/77		15:29	.72	1.05	227	927	CODF 12
11/30/77		15:31	.95	.53	228	928	CODF 18
11/30/77		15:33	1.47	.68	229	929	CODF 12
11/30/77		15:34	.32	.33	230	930	CODF 02
11/30/77		15:36	1.67	.75	231	931	CODF 02
11/30/77		15:37	.25	.28	232	932	CODF 24
11/30/77		15:38	.72	.25	233	933	CODF 24

MODULE 3 = FUZE ASSEMBLY STATION 5 (CONTO) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MOOULF FAILURE NUMBFR	SYSTEM FAILURE NUMBER	FAILURE MODE
11/30/77		15:39	.75	1.10	234	934	COOF 12
11/30/77		15:41	.90	.28	235	935	CODE 24
11/30/77		15:42	.72	.50	236	936	CODE 18
11/30/77		15:43	.50	.63	237	937	CODE 02
11/30/77		15:44	.37	1.05	238	938	CODE 12
11/30/77		15:46	.95	.28	239	939	CODE 24
11/30/77		15:47	.72	.40	240	940	COOF 24
11/30/77		15:48	.60	.33	241	941	COOF 24
11/30/77		15:49	.67	.53	242	942	COOF 25
11/30/77		15:50	.47	.28	243	943	CODE 24
11/30/77		15:51	.72	.50	244	944	COOF 02
11/30/77		15:52	.50	.43	245	945	CODE 12
11/30/77							
END OF SHIFT AT 15:53							
12/01/77	08:00						
12/01/77		08:02	2.57	1.10	246	946	CODE 02
12/01/77		08:04	.90	.80	247	947	CODE 12
12/01/77		08:05	.20	1.20	248	948	COOF 25
12/01/77		08:15	2.97	1.50	249	949	CODE 11
12/01/77		08:17	.50	.93	250	950	COOF 04
12/01/77		08:18	.07	.88	251	951	COOF 02
12/01/77		08:19	.12	6.43	252	952	CODE 29
12/01/77		08:28	2.57	.20	253	953	CODE 24
12/01/77		08:29	.80	.63	254	954	CODE 12
12/01/77		08:35	5.37	1.05	255	955	CODE 12
12/01/77		08:39	2.95	.75	256	956	CONV CHAIN OUT OF LINE
12/01/77		08:42	2.25	1.83	257	957	CONV CHAIN OUT OF LINE
12/01/77		08:49	5.17	.58	258	958	CODE 12
12/01/77		08:50	.42	.63	259	959	CODE 12
12/01/77		08:53	2.37	.20	260	960	CODE 24
12/01/77		08:55	1.80	.80	261	961	CODE 12
12/01/77		08:57	1.20	1.10	262	962	CODE 12
12/01/77		08:59	.90	.43	263	963	CODE 12
12/01/77		09:01	1.57	.58	264	964	CODE 18
12/01/77		09:02	.42	.75	265	965	CODE 12
12/01/77		09:06	3.25	.58	266	966	CODE 25
12/01/77		09:07	.42	.33	267	967	COOF 24
12/01/77		09:11	3.67	.20	268	968	COOF 27
12/01/77		09:13	1.80	.63	269	969	CODE 25
12/01/77		09:15	1.37	.43	270	970	CODE 02

MODULE 3 = FUZE ASSEMBLY STATION 5				(CONTD)		STATION 305 AT KAAP	
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/01/77		09:24	8.57	.58	271	971	CODE 12
12/01/77		09:28	3.42	.20	272	972	CODE 1A
12/01/77		09:35	6.80	.40	273	973	CODE 28
12/01/77		09:38	2.60	.25	274	974	CODE 18
12/01/77		09:39	.75	.53	275	975	ALL STA BACK - RESET SWITCH
12/01/77		09:40	.47	.31	276	976	CODE 24
12/01/77		09:50	9.67	.20	277	977	CODE 24
12/01/77		10:17	11.80	2.13	278	978	CODE 11
12/01/77		10:31	11.87	1.13	279	979	CODE 25
12/01/77		10:33	.87	.25	280	980	CODE 12
12/01/77		10:38	4.75	.33	281	981	CODE 12
12/01/77		10:47	8.67	.20	282	982	CODE 27
12/01/77		10:56	8.80	1.58	283	983	CODE 11
12/01/77		11:01	3.42	3.05	284	984	CODE 24
12/01/77		11:05	.95	.20	285	985	CODE 27
12/01/77		11:10	4.80	.25	286	986	CODE 02
12/01/77		11:11	.75	.25	287	987	CODE 12
12/01/77		11:15	3.75	1.20	288	988	CODE 12
12/01/77		11:17	.80	.25	289	989	CODE 24
12/01/77		11:18	.75	.68	290	990	CODE 12
12/01/77		11:19	.32	.43	291	991	CODE 12
12/01/77		11:22	2.57	.33	292	992	CODE 12
12/01/77		11:23	.67	.25	293	993	CODE 12
12/01/77		11:24	.75	.40	294	994	CODE 04
12/01/77		11:25	.60	.58	295	995	CODE 12
12/01/77		11:26	.42	.28	296	996	CODE 12
12/01/77		11:34	7.72	.33	297	997	CODE 04
12/01/77		11:36	1.67	.25	298	998	CODE 04
12/01/77		11:42	5.75	.80	299	999	CODE 11
12/01/77		11:43	.20	.25	300	1000	CODE 12
12/01/77		11:46	2.75	.31	301	1001	CODE 24
12/01/77		11:47	.67	1.53	302	1002	CODE 16
12/01/77		11:49	.47	.33	303	1003	CODE 12
12/01/77		12:34	14.67	1.50	304	1004	CODE 03
12/01/77		12:36	.50	.40	305	1005	CODE 1A
12/01/77		12:38	1.60	.43	306	1006	CODE 04
12/01/77		12:47	8.57	.33	307	1007	CODE 24
12/01/77		12:48	.67	.75	308	1008	CODE 12
12/01/77		12:52	3.25	.80	309	1009	CODE 01
12/01/77		12:57	4.20	.40	310	1010	CODE 02

MODULE 3 = FUEL ASSEMBLY STATION 5 (CONT'D) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/01/77	13:02	4:60	.28		311	1011	COOF 24
12/01/77	13:07	4:72	.53		312	1012	COOF 25
12/01/77	13:08	.47	1.20		313	1013	COOF 24
12/01/77	13:14	4:80	1.68		314	1014	COOF 17
12/01/77	13:16	.32	.75		315	1015	COOF 18
12/01/77	13:19	2:25	.50		316	1016	COOF 24
12/01/77	13:20	.50	.20		317	1017	COOF 12
12/01/77	13:23	2:80	2.10		318	1018	COOF 11
12/01/77	13:26	.90	.83		319	1019	COOF 12
12/01/77	13:28	1:17	1.20		320	1020	COOF 24
12/01/77	13:31	1:80	.53		321	1021	COOF 12
12/01/77	13:32	.47	.53		322	1022	COOF 11
12/01/77	13:33	.47	1.40		323	1023	COOF 12
12/01/77	13:35	.60	1.13		324	1024	COOF 12
12/01/77	13:37	.87	.25		325	1025	COOF 12
12/01/77	14:15	3:75	7.25		326	1026	COOF 11
12/01/77	14:23	.75	.28		327	1027	COOF 24
12/01/77	14:24	.72	.83		328	1028	COOF 02
12/01/77	14:27	2:17	.28		329	1029	COOF 24
12/01/77	14:28	.72	.58		330	1030	COOF 12
12/01/77	14:29	.42	4.31		331	1031	COOF 02
12/01/77	14:34	.67	.28		332	1032	COOF 24
12/01/77	14:35	.72	.20		333	1033	COOF 24
12/01/77	14:37	1:80	.25		334	1034	COOF 12
12/01/77	14:38	.75	.25		335	1035	COOF 24
12/01/77	14:39	.75	.28		336	1036	COOF 24
12/01/77	14:40	.72	.75		337	1037	COOF 11
12/01/77	14:41	.25	2.28		338	1038	COOF 24
12/01/77	14:44	.72	1.05		339	1039	COOF 04
12/01/77	14:47	1:95	.25		340	1040	COOF 27
12/01/77	14:48	.75	.25		341	1041	COOF 24
12/01/77	14:49	.75	.25		342	1042	COOF 12
12/01/77	14:50	.75	.20		343	1043	COOF 24
12/01/77	14:51	.80	.25		344	1044	COOF 24
12/01/77	14:53	1:75	.28		345	1045	COOF 24
12/01/77	14:55	1:72	.33		346	1046	COOF 24
12/01/77	14:56	.67	.58		347	1047	COOF 24
12/01/77	14:57	.42	.20		348	1048	COOF 18
12/01/77	14:58	.80	.33		349	1049	COOF 24
12/01/77	14:59	.67	1.33		350	1050	COOF 24

MODULE 3 = FUZE ASSEMBLY STATION 5 (CONTD) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/01/77		15:01	.67	.93	351	1051	CODF 24
12/01/77		15:02	.07	.25	352	1052	CODF 12
12/01/77		15:03	.75	1.75	353	1053	CODF 11
12/01/77		15:06	1.25	2.58	354	1054	CODF 11
12/01/77		15:09	.42	.93	355	1055	CODF 18
12/01/77		15:10	.07	1.50	356	1056	CODF 11
12/01/77		15:13	1.50	3.20	357	1057	CODF 11
12/01/77		15:17	.80	.40	358	1058	CODF 11
12/01/77		15:18	.60	.50	359	1059	CODF 11
12/01/77		15:21	2.50	.25	360	1060	CODF 18
12/01/77		15:26	4.75	.20	361	1061	CODF 12
12/01/77		15:34	7.80	.25	362	1062	CODF 18
12/01/77		15:36	1.75	.28	363	1063	CODF 04
12/01/77		15:38	1.72	.25	364	1064	CODF 24
12/01/77		15:42	3.75	.28	365	1065	FUZE KNOCKED OFF BODY
12/01/77		15:43	.72	.20	366	1066	CODF 24
12/01/77		15:45	1.80	.25	367	1067	CODF 24
12/01/77		15:46	.75	.25	368	1068	CODF 16
12/01/77		15:47	.75	.28	369	1069	CODF 24
12/01/77		15:48	.72	.33	370	1070	CODF 24
12/01/77		15:49	.67	.25	371	1071	CODF 24
12/01/77		15:51	1.75	.20	372	1072	CODF 12
12/01/77		15:52	.80	.25	373	1073	CODF 12
12/01/77							
END OF SHIFT AT 15:53							
12/02/77	08:00						
12/02/77		08:03	3.75	.33	374	1074	CODF 12
12/02/77		08:07	3.67	.25	375	1075	CODF 12
12/02/77		08:08	.75	7.40	376	1076	CODF 16
12/02/77		08:19	3.60	.75	377	1077	CODF 12
12/02/77		08:20	.25	.40	378	1078	CODF 18
12/02/77		08:22	1.60	8.33	379	1079	CODF 16
12/02/77		08:33	2.67	.50	380	1080	CODF 18
12/02/77		08:36	2.50	6.28	381	1081	CODF 16
12/02/77		08:43	.72	1.43	382	1082	CODF 25
12/02/77		08:46	1.57	.68	383	1083	CODF 18
12/02/77		08:49	2.32	.25	384	1084	CODF 18
12/02/77		08:53	3.75	.20	385	1085	CODF 12
12/02/77		08:56	2.80	.33	386	1086	CODF 12
12/02/77		09:01	4.67	.25	387	1087	CODF 24

MODULE 3 = FUZE ASSEMBLY STATION 5			(CONTD)		STATION 305 AT KAAP		
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/02/77		09:03	1.75	.75	388	1088	CODE 04
12/02/77		09:04	.25	3.93	389	1089	CODE 29
12/02/77		09:09	1.07	.20	390	1090	CODE 18
12/02/77		09:14	4.80	1.58	391	1091	BODY CAUGHT ON WINDER
12/02/77		09:21	5.42	7.43	392	1092	CODE 16
12/02/77		09:29	.57	.28	393	1093	FUZE KNOCKED OFF BODY
12/02/77		10:16	1.32	16.05	394	1094	CODE 29
12/02/77		10:37	4.95	.33	395	1095	CODE 04
12/02/77		10:42	4.67	.93	396	1096	CODE 12
12/02/77		10:43	.07	.20	397	1097	CODE 12
12/02/77		10:45	1.80	.28	398	1098	CODE 04
12/02/77		10:46	.72	.33	399	1099	CODE 11
12/02/77		10:47	.67	.68	400	1100	CODE 11
12/02/77		10:48	.32	.28	401	1101	CODE 12
12/02/77		10:49	.72	.63	402	1102	CODE 11
12/02/77		10:51	1.37	1.53	403	1103	CODE 11
12/02/77		11:03	10.47	.93	404	1104	CODE 11
12/02/77		11:04	.07	.43	405	1105	CODE 27
12/02/77		11:05	.57	.20	406	1106	CODE 12
12/02/77		11:06	.80	2.40	407	1107	CODE 29
12/02/77		11:11	2.60	.33	408	1108	CODE 12
12/02/77		11:16	4.67	.50	409	1109	CODE 11
12/02/77		11:21	4.50	.20	410	1110	CODE 02
12/02/77		11:22	.80	.25	411	1111	CODE 12
12/02/77		11:26	3.75	4.50	412	1112	CODE 16
12/02/77		11:34	3.50	.28	413	1113	CODE 24
12/02/77		11:38	3.72	.40	414	1114	CODE 12
12/02/77		11:40	1.60	.83	415	1115	CODE 25
12/02/77		11:42	1.17	.20	416	1116	CODE 12
12/02/77		11:50	7.80	.28	417	1117	CODE 24
12/02/77		11:55	4.72	.25	418	1118	CODE 12
12/02/77		12:41	14.65	.68	419	1119	CODE 12
12/02/77		12:43	1.32	.33	420	1120	CODE 02
12/02/77		13:44	3.08	.53	421	1121	CODE 11
12/02/77		13:46	1.47	.75	422	1122	CODE 04
12/02/77		13:48	1.25	.63	423	1123	CODE 11
12/02/77		13:52	3.37	.33	424	1124	CODE 24
12/02/77		13:54	1.67	.20	425	1125	CODE 12
12/02/77		13:57	2.80	.33	426	1126	CODE 02
12/02/77		14:18	5.67	.25	427	1127	CODE 24

MODULE 3 = FUZE ASSEMBLY STATION 5 (CONTD) STATION 305 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/02/77	14:22	3:75	.83		428	1128	COOF 12
12/02/77	14:24	1:17	.68		429	1129	COOF 25
12/02/77	14:26	1:32	.28		430	1130	COOF 12
12/02/77	14:29	2:72	.80		431	1131	COOF 16
12/02/77	14:30	.20	.43		432	1132	COOF 05
12/02/77	14:31	.57	1:53		433	1133	COOF 11
12/02/77	14:33	.47	.20		434	1134	COOF 12
12/02/77	14:35	1:80	.33		435	1135	COOF 12
12/02/77	14:36	.67	.58		436	1136	COOF 11
12/02/77	14:37	.42	1:20		437	1137	COOF 11
12/02/77	14:39	.80	1:58		438	1138	COOF 18
12/02/77	14:41	.42	.33		439	1139	COOF 24
12/02/77	14:43	1:67	.63		440	1140	COOF 11
12/02/77	14:44	.37	1:50		441	1141	COOF 04
12/02/77	14:46	.50	.33		442	1142	COOF 12
12/02/77	14:48	1:67	.68		443	1143	COOF 24
12/02/77	14:50	1:32	.28		444	1144	COOF 27
12/02/77	14:51	.72	.50		445	1145	COOF 11
12/02/77	14:52	.50	.33		446	1146	COOF 18
12/02/77	14:53	.67	.40		447	1147	COOF 12
12/02/77	14:54	.60	1:33		448	1148	COOF 03
12/02/77	14:56	.67	.28		449	1149	COOF 12
12/02/77	14:57	.72	.25		450	1150	COOF 18

END OF SHIFT AT 15:01

MODULE 4 = FIU/F ASSEMBLY STATION 3				STATION 303 AT KAAP			
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77	08:00	08:04	2.00	3.19	1	1151	CDDF 21
12/05/77		08:32	24.82	.39	2	1152	CDDF 12
12/05/77		08:46	11.15	.82	3	1153	CDDF 12
12/05/77		08:47	.18	.82	4	1154	CDDF 12
12/05/77		09:04	16.18	.27	5	1155	CDDF 02
12/05/77		09:05	.73	1.39	6	1156	CDDF 03
12/05/77		09:12	5.62	.38	7	1157	CDDF 12
12/05/77		09:19	6.62	.32	8	1158	CDDF 24
12/05/77		09:20	.68	2.32	9	1159	CDDF 24
12/05/77		10:38	60.68	.77	10	1160	CDDF 12
12/05/77		10:43	4.23	.27	11	1161	CDDF 12
12/05/77		10:45	1.73	1.82	12	1162	CDDF 28
12/05/77		10:52	5.18	.27	13	1163	CDDF 24
12/05/77		11:02	9.73	.39	14	1164	CDDF 02
12/05/77		11:13	10.62	.40	15	1165	CDDF 12
12/05/77		11:33	19.60	.32	16	1166	CDDF 24
12/05/77		11:41	7.68	.90	17	1167	CDDF 12
12/05/77		11:42	.10	.32	18	1168	CDDF 12
12/05/77		11:44	1.68	.22	19	1169	CDDF 12
12/05/77		12:34	19.78	3.55	20	1170	CDDF 12
12/05/77		12:38	.45	.65	21	1171	CDDF 12
12/05/77		12:45	6.35	.32	22	1172	CDDF 24
12/05/77		12:46	.68	.27	23	1173	CDDF 24
12/05/77		12:48	1.73	.22	24	1174	CDDF 24
12/05/77		12:52	3.78	1.02	25	1175	CDDF 12
12/05/77		12:56	2.98	.32	26	1176	CDDF 12
12/05/77		13:03	6.68	.27	27	1177	CDDF 12
12/05/77		13:05	1.73	.72	28	1178	CDDF 03
12/05/77		13:08	2.28	.07	29	1179	CDDF 24
12/05/77		13:10	1.93	.60	30	1180	CDDF 12
12/05/77		13:17	6.40	.90	31	1181	CDDF 12
12/05/77		13:18	.10	.82	32	1182	CDDF 03
12/05/77		14:21	47.18	.47	33	1183	CDDF 12
12/05/77		14:23	1.53	.27	34	1184	CDDF 24
12/05/77		14:26	2.73	.32	35	1185	CDDF 12
12/05/77		14:28	1.68	.32	36	1186	CDDF 12
12/05/77		14:29	.68	1.18	37	1187	CDDF 12
12/05/77		14:32	1.82	.22	38	1188	CDDF 24
12/05/77		14:40	7.78	.47	39	1189	CDDF 25

MODULE 4 = FU7E ASSEMBLY STATION 3 (CONTD) STATION 303 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77		14:53	12:53	.3A	40	1190	CODF 12
12/05/77		14:54	.62	.22	41	1191	CODF 24
12/05/77		14:56	1:78	.22	42	1192	CODF 02
12/05/77		14:57	.78	.3A	43	1193	CODF 02
12/05/77		14:58	.62	.52	44	1194	CODF 02
12/05/77		15:05	6:48	.3A	45	1195	CODF 12
12/05/77		15:07	1:62	2:22	46	1196	CODF 12
12/05/77		15:18	8:78	.60	47	1197	CODF 02
12/05/77		15:21	2:40	.22	48	1198	CODF 24
12/05/77		15:24	2:78	1:07	49	1199	CODF 12
12/05/77		15:26	.93	.65	50	1200	CODF 27
12/05/77		END OF SHIFT AT 15:26					
12/06/77	08:00						
12/06/77		08:01	.35	.32	51	1201	CODF 12
12/06/77		08:02	.68	1:00	52	1202	CODF 03
12/06/77		08:04	1:00	1:07	53	1203	CODF 12
12/06/77		08:06	.93	.32	54	1204	CODF 12
12/06/77		08:07	.68	.90	55	1205	CODF 12
12/06/77		08:08	.10	.40	56	1206	CODF 12
12/06/77		08:09	.60	.32	57	1207	CODF 12
12/06/77		08:15	5:68	1:77	58	1208	CODF 12
12/06/77		08:17	.23	.22	59	1209	CODF 18
12/06/77		08:20	2:78	1:47	60	1210	CODF 24
12/06/77		08:29	7:53	.32	61	1211	CODF 25
12/06/77		08:33	3:68	3:55	62	1212	CODF 12
12/06/77		08:38	1:45	.77	63	1213	TIGHTEN CNVR INFEED BELT
12/06/77		08:40	1:23	.32	64	1214	CODF 12
12/06/77		08:50	9:68	.22	65	1215	CODF 12
12/06/77		08:51	.78	2:07	66	1216	CODF 27
12/06/77		08:55	1:93	.65	67	1217	CODF 12
12/06/77		09:00	4:35	.47	68	1218	CODF 12
12/06/77		09:01	.53	1:77	69	1219	CODF 12
12/06/77		09:05	2:23	.47	70	1220	CODF 12
12/06/77		09:07	1:53	.72	71	1221	CODF 2A
12/06/77		09:13	5:28	.32	72	1222	CODF 12
12/06/77		09:24	10:68	.22	73	1223	CODF 24
12/06/77		09:28	3:78	.22	74	1224	CODF 24
12/06/77		09:33	4:78	.40	75	1225	CODF 12
12/06/77		09:36	2:60	.3A	76	1226	CODF 12

MODUL F 4 = FUZE ASSEMBLY STATION 3				(CONTD)		STATION 303 AT KAAP	
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/06/77		09:40	3.62	.32	77	1227	CODE 12
12/06/77		09:45	4.68	.38	78	1228	CODE 12
12/06/77		10:26	25.62	1.47	79	1229	CODE 28
12/06/77		10:30	2.53	.32	80	1230	CODE 12
12/06/77		10:36	5.68	.77	81	1231	CODE 02
12/06/77		10:38	1.23	.40	82	1232	CODE 12
12/06/77		10:41	2.60	.52	83	1233	CODE 02
12/06/77		10:42	.48	.27	84	1234	CODE 12
12/06/77		10:43	.73	.47	85	1235	CODE 12
12/06/77		10:45	1.53	.60	86	1236	CODE 12
12/06/77		10:47	1.40	1.40	87	1237	CODE 12
12/06/77		10:49	.60	.22	88	1238	CODE 24
12/06/77		10:50	.78	.65	89	1239	CODE 12
12/06/77		10:55	4.35	.22	90	1240	CODE 24
12/06/77		10:56	.78	.18	91	1241	CODE 24
12/06/77		10:57	.82	.32	92	1242	CODE 12
12/06/77		11:00	2.68	.32	93	1243	CODE 12
12/06/77		11:12	11.68	.38	94	1244	CODE 12
12/06/77		11:18	5.62	.40	95	1245	CODE 12
12/06/77		11:20	1.60	11.07	96	1246	CODE 28
12/06/77		11:32	.93	.47	97	1247	CODE 12
12/06/77		11:33	.53	.22	98	1248	CODE 12
12/06/77		11:45	11.78	1.00	99	1249	CODE 16
12/06/77		11:47	1.00	13.00	100	1250	CODE 16
12/06/77		12:30	0.00	5.00	101	1251	CODE 16
12/06/77		12:38	3.00	.38	102	1252	CODE 12
12/06/77		12:45	6.62	.32	103	1253	CODE 12
12/06/77		12:51	5.68	.27	104	1254	CODE 12
12/06/77		12:52	.73	.27	105	1255	CODE 12
12/06/77		12:54	1.73	5.55	106	1256	CODE 29
12/06/77		13:09	9.45	.38	107	1257	CODE 18
12/06/77		13:24	14.62	1.40	108	1258	CODE 25
12/06/77		13:29	3.60	2.55	109	1259	CODE 12
12/06/77		13:32	.45	.60	110	1260	CODE 12
12/06/77		13:40	7.40	.90	111	1261	CODE 12
12/06/77		13:45	4.10	.52	112	1262	CODE 03
12/06/77		14:30	29.48	1.55	113	1263	CODE 12
12/06/77		14:45	13.45	.40	114	1264	CODE 24
12/06/77		15:00	14.60	.32	115	1265	CODE 24
12/06/77		15:06	5.68	.55	116	1266	CODE 02

MODULE 4 = FUZE ASSEMBLY STATION 3 (CONTD) STATION 303 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/06/77	15:08	15:08	1.45	.27	117	1267	CODF 24
12/06/77	15:10	15:10	1.73	.40	118	1268	CODF 12
12/06/77							
12/07/77	08:00						
12/07/77	08:14	08:14	16.05	.32	119	1269	CODF 12
12/07/77	08:15	08:15	.68	.32	120	1270	CODF 12
12/07/77	08:16	08:16	.68	.21	121	1271	CODF 16
12/07/77	08:40	08:40	3.00	.22	122	1272	CODF 24
12/07/77	08:48	08:48	5.47	.82	123	1273	CODF 24
12/07/77	08:49	08:49	.18	1.27	124	1274	CODF 12
12/07/77	08:56	08:56	5.73	.52	125	1275	CODF 12
12/07/77	08:59	08:59	2.48	.55	126	1276	CODF 02
12/07/77	09:02	09:02	2.45	.47	127	1277	CODF 02
12/07/77	09:04	09:04	1.53	1.90	128	1278	CODF 02
12/07/77	09:06	09:06	.10	1.07	129	1279	CODF 02
12/07/77	09:15	09:15	7.93	2.18	130	1280	FUZF KNOCKED OFF GRENADE
12/07/77	09:20	09:20	2.82	5.07	131	1281	CODF 12
12/07/77	09:29	09:29	3.93	3.00	132	1282	CODF 12
12/07/77	09:32	09:32	0.00	2.00	133	1283	LUBRICATE SHOT PIN
12/07/77	09:35	09:35	1.00	7.00	134	1284	CODF 12
12/07/77	10:18	10:18	21.00	1.47	135	1285	CODF 12
12/07/77	10:30	10:30	10.53	.27	136	1286	CODF 27
12/07/77	10:33	10:33	2.73	.40	137	1287	CODF 12
12/07/77	10:38	10:38	4.60	.38	138	1288	CODF 27
12/07/77	10:42	10:42	3.62	1.00	139	1289	CODF 28
12/07/77	10:44	10:44	1.00	.38	140	1290	CODF 12
12/07/77	10:46	10:46	1.62	1.38	141	1291	CODF 18
12/07/77	10:52	10:52	4.62	.27	142	1292	CODF 12
12/07/77	10:58	10:58	5.73	.47	143	1293	CODF 12
12/07/77	10:59	10:59	.53	.38	144	1294	CODF 12
12/07/77	11:05	11:05	5.62	.80	145	1295	CODF 28
12/07/77	11:30	11:30	24.20	1.27	146	1296	CODF 18
12/07/77	11:36	11:36	4.73	.55	147	1297	CODF 12
12/07/77	11:43	11:43	6.45	.22	148	1298	CODF 24
12/07/77	12:36	12:36	22.78	.60	149	1299	CODF 18
12/07/77	12:50	12:50	13.40	.22	150	1300	CODF 24
12/07/77	13:00	13:00	9.78	1.47	151	1301	CODF 28
12/07/77	13:15	13:15	13.53	.27	152	1302	CODF 27
12/07/77	13:31	13:31	15.73	.32	153	1303	CODF 24

MODULE 4 = FUZF ASSEMBLY STATION 3 (CONTD) STATION 303 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBR	SYSTEM FAILURE NUMBER	FAILURE MODF
12/07/77	14:27	40:68	.55		154	1304	CODE 12
12/07/77	14:30	2:45	.22		155	1305	CODE 24
12/07/77	14:43	12:78	.40		156	1306	CODE 12
12/07/77	14:50	6:60	1:38		157	1307	CODE 12
12/07/77	14:58	4:58	.40		158	1308	CODE 27
12/07/77	15:03	4:60	1:27		159	1309	CODE 18
12/07/77	15:08	3:73	1:77		160	1310	CODE 27
12/07/77	15:12	2:23	.82		161	1311	CODE 12
12/07/77	15:16	3:18	.60		162	1312	CODE 27
12/07/77	15:31	12:88	.60		163	1313	CODE 24
12/07/77	15:32	.40	.82		164	1314	CODE 27
END OF SHIFT AT 15:45							
12/08/77	08:05						
12/08/77	08:11	18:18	.85		165	1315	CODE 05
12/08/77	08:14	2:15	1:02		166	1316	CODE 02
12/08/77	08:17	1:98	4:02		167	1317	CODE 12
12/08/77	08:24	2:98	.32		168	1318	CODE 12
12/08/77	08:26	1:68	.82		169	1319	CODE 12
12/08/77	08:30	3:18	.18		170	1320	CODE 21
12/08/77	08:35	4:82	1:00		171	1321	CODE 03
12/08/77	08:44	8:00	.27		172	1322	CODE 24
12/08/77	08:47	2:73	.18		173	1323	CODE 27
12/08/77	08:48	.82	.38		174	1324	CODE 18
12/08/77	08:51	2:62	.65		175	1325	CODE 18
12/08/77	08:52	.35	1:27		176	1326	FUZE JARRED OFF BODY
12/08/77	08:55	1:73	.90		177	1327	CODE 27
12/08/77	08:58	2:10	.10		178	1328	CODE 12
12/08/77	09:04	5:90	.47		179	1329	CODE 02
12/08/77	09:07	2:53	.38		180	1330	CODE 27
12/08/77	09:17	9:62	.22		181	1331	CODE 27
12/08/77	09:18	.78	.40		182	1332	CODE 02
12/08/77	09:24	5:60	.22		183	1333	CODE 24
12/08/77	09:25	.78	1:07		184	1334	CODE 02
12/08/77	09:27	.93	.32		185	1335	CODE 02
12/08/77	09:30	2:68	.27		186	1336	CODE 27
12/08/77	09:37	6:73	.32		187	1337	CODE 27
12/08/77	09:42	4:68	1:10		188	1338	CODE 28
12/08/77	09:44	.90	.72		189	1339	CODE 15
12/08/77	09:53	8:28	.40		190	1340	CODE 24

MODULE 4 = FUZF ASSEMBLY STATION 3			(CONTO)		STATION 303 AT KAAP		
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/08/77		10:20	11:60	.27	191	1341	CODF 27
12/08/77		10:22	1:73	.40	192	1342	CODF 05
12/08/77		10:30	7:60	.27	193	1343	CODF 27
12/08/77		10:37	6:73	.27	194	1344	CODF 24
12/08/77		10:49	11:73	.47	195	1345	CODF 11
12/08/77		10:54	4:53	.38	196	1346	CODF 02
12/08/77		10:59	4:62	.52	197	1347	CODF 02
12/08/77		11:05	5:48	.22	198	1348	CODF 27
12/08/77		11:38	32:78	.27	199	1349	CODF 12
12/08/77		11:39	.73	.38	200	1350	CODF 12
12/08/77		11:40	.62	.85	201	1351	CODF 02
12/08/77		11:51	10:15	.38	202	1352	CODF 27
12/08/77		12:32	10:62	.27	203	1353	CODF 12
12/08/77		12:47	14:73	.27	204	1354	CODF 24
12/08/77		12:49	1:73	.40	205	1355	CODF 24
12/08/77		12:59	9:60	.27	206	1356	CODF 27
12/08/77		13:07	7:73	.22	207	1357	CODF 12
12/08/77		13:21	13:78	.40	208	1358	CODF 02
12/08/77		13:23	1:60	.38	209	1359	CODF 12
12/08/77		13:29	5:62	.22	210	1360	CODF 27
12/08/77		13:36	6:78	.32	211	1361	CODF 27
12/08/77		13:40	3:68	.27	212	1362	CODF 27
12/08/77		13:43	2:73	.60	213	1363	CODF 28
12/08/77		13:49	5:40	.38	214	1364	CODF 27
12/08/77		14:23	18:62	1:55	215	1365	CODF 24
12/08/77		14:25	.45	6:00	216	1366	CODF 12
12/08/77		14:38	7:00	.52	217	1367	CODF 02
12/08/77		14:41	2:48	1:47	218	1368	CODF 09
12/08/77		14:43	.53	.40	219	1369	CODF 02
12/08/77		14:44	.60	.47	220	1370	CODF 12
12/08/77		14:49	4:53	.27	221	1371	CODF 07
12/08/77		14:51	1:73	1:22	222	1372	CODF 04
12/08/77				END OF SHIFT AT 14:53			
12/09/77	08:00	08:03	3:78	.27	223	1373	CODF 12
12/09/77		08:15	11:73	.82	224	1374	CODF 28
12/09/77		08:37	19:08	.32	225	1375	CODF 12
12/09/77		09:03	25:68	.40	226	1376	CODF 12
12/09/77		09:04	.60	.32	227	1377	CODF 12

MODULE 4 = FUZF ASSEMBLY STATION 3 (CONTD) STATION 303 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/09/77		09:21	16.68	.22	228	1378	CODE 24
12/09/77		09:24	2.78	.47	229	1379	GRENADE FALLEN ON FLOOR
12/09/77		11:30	8.53	3.47	230	1380	ADJUST MACHINE TIMING
12/09/77		11:41	7.53	.60	231	1381	CODE 11
12/09/77		12:41	29.40	.90	232	1382	CODE 11
12/09/77		12:43	1.10	.32	233	1383	CODE 12
12/09/77		12:45	1.68	.65	234	1384	CODE 11
12/09/77		12:50	4.35	3.00	235	1385	CODE 21
12/09/77		12:58	5.00	.32	236	1386	CODE 12
12/09/77		13:07	8.68	.60	237	1387	CODE 11
12/09/77		13:09	1.40	.47	238	1388	CODE 11
12/09/77		13:10	.53	6.90	239	1389	CODE 11
12/09/77		13:17	.10	.65	240	1390	CODE 18
12/09/77		13:26	8.35	1.22	241	1391	CODE 18
12/09/77		13:31	3.78	.47	242	1392	CODE 27
12/09/77		13:37	5.53	.52	243	1393	CODE 18
12/09/77		14:38	45.48	.38	244	1394	CODE 27
12/09/77		14:39	.62	.40	245	1395	CODE 18
12/09/77		15:06	26.60	.47	246	1396	CODE 12
12/09/77		15:07	.53	.35	247	1397	CODE 02
12/09/77		15:08	.65	.47	248	1398	CODE 24
12/09/77		15:09	.53	.32	249	1399	CODE 18
12/09/77		15:14	4.68	.22	250	1400	CODE 12

END OF SHIFT AT 15:15

MODULE 5 = FUZE ASSEMBLY STATION 4				STATION 304 AT KAAP			
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77	08:06	08:06	0.00	3.85	1	1401	CODF 1A
12/05/77		08:42	1.08	1.52	2	1402	CODF 25
12/05/77		08:44	.48	.82	3	1403	CODF 27
12/05/77		08:45	.18	1.18	4	1404	CONVEYOR CHAIN OUT OF LINE
12/05/77		08:47	.82	.27	5	1405	CODF 24
12/05/77		08:48	.73	.18	6	1406	CODF 24
12/05/77		08:49	.82	.22	7	1407	CODF 27
12/05/77		08:50	.78	.22	8	1408	CODF 24
12/05/77		08:51	.78	.27	9	1409	CODF 18
12/05/77		08:52	.73	.65	10	1410	CODF 18
12/05/77		08:53	.35	.60	11	1411	CODF 18
12/05/77		08:56	2.40	.47	12	1412	CODF 12
12/05/77		08:57	.53	.40	13	1413	CODF 18
12/05/77		08:58	.60	.38	14	1414	CODF 12
12/05/77		08:59	.62	.22	15	1415	CODF 27
12/05/77		09:00	.78	.18	16	1416	CODF 24
12/05/77		09:02	1.82	.27	17	1417	CODF 12
12/05/77		09:03	.73	.18	18	1418	CODF 24
12/05/77		09:05	1.82	1.72	19	1419	CODF 25
12/05/77		09:08	1.28	.72	20	1420	CODF 18
12/05/77		09:09	.28	2.10	21	1421	CODF 18
12/05/77		09:12	.90	.38	22	1422	CODF 18
12/05/77		09:14	1.62	.27	23	1423	CODF 27
12/05/77		09:15	.73	.22	24	1424	CODF 18
12/05/77		09:16	.78	.90	25	1425	CODF 18
12/05/77		09:19	2.10	.60	26	1426	CODF 18
12/05/77		09:20	.40	.47	27	1427	CODF 02
12/05/77		09:25	4.53	.32	28	1428	CODF 12
12/05/77		09:29	3.68	.32	29	1429	CODF 27
12/05/77		09:30	.68	.22	30	1430	CODF 12
12/05/77		09:35	4.78	.18	31	1431	CODF 27
12/05/77		09:36	.82	.52	32	1432	CODF 18
12/05/77		09:42	5.48	.18	33	1433	CODF 27
12/05/77		09:48	5.82	.32	34	1434	CODF 18
12/05/77		09:53	4.68	.22	35	1435	CODF 27
12/05/77		09:56	2.78	.18	36	1436	CODF 12
12/05/77		10:17	5.82	.18	37	1437	CODF 02
12/05/77		10:22	4.82	.65	38	1438	CODF 12
12/05/77		10:23	.35	.72	39	1439	CODF 12

MODULE 5 = FUTE ASSEMBLY STATION 4				(CONTO)		STATION 304 AT KAAP	
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77		10:24	.28	.55	40	1440	COOF 12
12/05/77		10:26	1.45	.32	41	1441	COOF 18
12/05/77		10:28	1.68	.27	42	1442	COOE 24
12/05/77		10:30	1.73	.18	43	1443	COOE 24
12/05/77		10:31	.82	.52	44	1444	COOE 18
12/05/77		10:34	2.48	.32	45	1445	COOF 12
12/05/77		10:36	1.68	.55	46	1446	COOF 18
12/05/77		10:38	1.45	.22	47	1447	COOE 27
12/05/77		10:40	1.78	.32	48	1448	COOF 12
12/05/77		10:41	.68	.40	49	1449	COOF 12
12/05/77		10:42	.60	.40	50	1450	COOF 12
12/05/77		10:43	.60	.18	51	1451	CODE 24
12/05/77		10:44	.82	.18	52	1452	COOF 24
12/05/77		10:46	1.82	1.82	53	1453	COOE 12
12/05/77		10:49	1.18	.18	54	1454	COOE 12
12/05/77		10:51	1.82	1.07	55	1455	CODE 16
12/05/77		10:53	.93	.18	56	1456	COOE 27
12/05/77		10:54	.82	.22	57	1457	COOE 24
12/05/77		10:55	.78	.38	58	1458	COOF 02
12/05/77		10:56	.62	.18	59	1459	COOE 24
12/05/77		10:58	1.82	.52	60	1460	COOF 18
12/05/77		10:59	.48	.27	61	1461	COOE 12
12/05/77		11:00	.73	.18	62	1462	COOE 27
12/05/77		11:02	1.82	.52	63	1463	COOE 12
12/05/77		11:06	3.48	1.02	64	1464	COOE 12
12/05/77		11:08	.98	.47	65	1465	CODE 11
12/05/77		11:09	.53	.32	66	1466	COOE 12
12/05/77		11:10	.68	.40	67	1467	COOF 12
12/05/77		11:11	.60	.60	68	1468	COOE 03
12/05/77		11:12	.40	.18	69	1469	COOE 24
12/05/77		11:13	.82	.18	70	1470	COOE 24
12/05/77		11:14	.82	.18	71	1471	COOE 27
12/05/77		11:15	.82	1.07	72	1472	CODE 12
12/05/77		11:17	.93	.27	73	1473	COOF 16
12/05/77		11:18	.73	.27	74	1474	COOE 16
12/05/77		11:19	.73	.40	75	1475	COOE 16
12/05/77		11:20	.60	.22	76	1476	COOF 12
12/05/77		11:21	.77	.32	77	1477	COOF 12
12/05/77		11:22	.68	.18	78	1478	COOE 24
12/05/77		11:23	.82	.65	79	1479	COOF 12

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MOOULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/05/77		11:28	4.35	.38	80	1480	CODE 18
12/05/77		11:33	4.62	.22	81	1481	CODE 24
12/05/77		11:34	.78	.27	82	1482	CODE 12
12/05/77		11:35	.73	.18	83	1483	CODE 24
12/05/77		11:36	.82	.22	84	1484	CODE 27
12/05/77		11:37	.78	.18	85	1485	CODE 12
12/05/77		11:38	.82	.27	86	1486	CODE 16
12/05/77		11:39	.73	.18	87	1487	CODE 24
12/05/77		11:42	2.82	.38	88	1488	CODE 12
12/05/77		11:45	2.62	.52	89	1489	CODE 12
12/05/77		11:51	5.48	.22	90	1490	CODE 24
12/05/77		11:52	.78	.27	91	1491	CODE 12
12/05/77		11:57	4.73	.18	92	1492	CODE 12
12/05/77		12:32	4.82	2.18	93	1493	CHANGE WIRE SHIELDS
12/05/77		12:38	3.82	.47	94	1494	CODE 12
12/05/77		12:39	.53	.47	95	1495	CODE 12
12/05/77		12:43	3.53	.18	96	1496	CODE 27
12/05/77		12:45	1.82	.52	97	1497	CODE 05
12/05/77		12:46	.48	.18	98	1498	CODE 24
12/05/77		12:52	5.82	.18	99	1499	CODE 27
12/05/77		12:53	.82	.32	100	1500	CODE 27
12/05/77		12:54	.68	.65	101	1501	CODE 12
12/05/77		12:59	4.35	1.65	102	1502	CODE 04
12/05/77		13:03	2.35	.18	103	1503	CODE 24
12/05/77		13:05	1.82	.22	104	1504	CODE 24
12/05/77		13:06	.78	.22	105	1505	CODE 27
12/05/77		13:08	1.78	.18	106	1506	CODE 24
12/05/77		13:09	.82	.77	107	1507	CODE 18
12/05/77		13:12	2.23	.60	108	1508	CODE 12
12/05/77		13:14	1.40	.27	109	1509	CODE 12
12/05/77		13:15	.73	.38	110	1510	CODE 12
12/05/77		13:16	.62	.40	111	1511	CODE 12
12/05/77		13:18	1.60	.72	112	1512	CODE 18
12/05/77		13:19	.28	.52	113	1513	CODE 27
12/05/77		13:20	.48	1.90	114	1514	CODE 12
12/05/77		13:23	1.10	1.27	115	1515	CODE 25
12/05/77		13:25	.73	.38	116	1516	CODE 24
12/05/77		13:26	.62	.22	117	1517	CODE 24
12/05/77		13:27	.78	1.07	118	1518	CODE 12
12/05/77		13:29	.93	.38	119	1519	CODE 27

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77		13:32	2.62	.60	120	1520	CODF 12
12/05/77		13:33	.40	2.18	121	1521	FUZF KNOCKED OFF BODY BY GAGE
12/05/77		13:36	.82	.32	122	1522	CODF 11
12/05/77		13:37	.68	3.65	123	1523	CODF 12
12/05/77		13:41	.35	.65	124	1524	CODF 24
12/05/77		13:44	2.35	1.60	125	1525	CODF 12
12/05/77		13:51	5.40	.55	126	1526	CODE 12
12/05/77		13:53	1.45	.18	127	1527	CODF 12
12/05/77		13:57	3.82	.32	128	1528	CODF 12
12/05/77		14:21	8.62	.60	129	1529	CODF 12
12/05/77		14:22	.40	1.32	130	1530	CODF 12
12/05/77		14:24	.68	.40	131	1531	CODF 12
12/05/77		14:25	.60	.38	132	1532	CODF 24
12/05/77		14:28	1.23	.32	133	1533	CODE 27
12/05/77		14:29	.68	.18	134	1534	CODE 24
12/05/77		14:30	.82	.18	135	1535	CODF 24
12/05/77		14:32	1.82	.55	136	1536	CODE 12
12/05/77		14:37	4.45	2.72	137	1537	CODF 28
12/05/77		14:40	.28	.27	138	1538	CODE 24
12/05/77		14:41	.73	.22	139	1539	CODE 24
12/05/77		14:42	.78	.22	140	1540	CODF 12
12/05/77		14:44	1.78	.38	141	1541	CODE 12
12/05/77		14:46	1.62	.32	142	1542	CODE 12
12/05/77		14:49	2.68	.18	143	1543	CODF 24
12/05/77		14:51	1.82	.22	144	1544	CODE 24
12/05/77		14:53	1.78	.22	145	1545	CODE 24
12/05/77		14:54	.78	.52	146	1546	CODE 12
12/05/77		14:55	.48	3.13	147	1547	CODF 12
12/05/77		15:00	1.87	.18	148	1548	CODF 24
12/05/77		15:02	1.82	.27	149	1549	CODE 12
12/05/77		15:03	.73	.18	150	1550	CODF 24
12/05/77		15:04	.82	.18	151	1551	CODF 24
12/05/77		15:06	1.82	.18	152	1552	CODF 24
12/05/77		15:07	.82	.18	153	1553	CODF 24
12/05/77		15:11	3.82	.18	154	1554	CODF 24
12/05/77		15:12	.82	.22	155	1555	CODF 11
12/05/77		15:18	5.78	1.07	156	1556	CODE 12
12/05/77		15:20	.93	.23	157	1557	CODF 12
12/05/77		15:21	.77	2.00	158	1558	CODF 12
12/05/77		15:23	0.00	.27	159	1559	CODF 24

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/05/77		15:24	.73	.18	160	1560	CODF 24
12/05/77		15:25	.82	.32	161	1561	CODF 27
12/05/77		15:27	1.68	.22	162	1562	CODF 24
12/05/77		15:28	.78	.18	163	1563	CODF 24
12/05/77							
12/06/77	08:00						
12/06/77		08:29	3.82	.27	164	1564	CODF 11
12/06/77		08:30	.73	.77	165	1565	CODF 11
12/06/77		08:31	.23	.75	166	1566	CODF 12
12/06/77		08:32	.25	1.38	167	1567	CODF 25
12/06/77		08:34	.62	.65	168	1568	CODF 27
12/06/77		08:35	.35	.27	169	1569	CODF 24
12/06/77		08:36	.73	1.10	170	1570	CODF 18
12/06/77		08:38	.90	1.27	171	1571	CODF 18
12/06/77		08:40	.73	.77	172	1572	CODF 18
12/06/77		08:41	.23	1.40	173	1573	CODF 18
12/06/77		08:47	4.60	.82	174	1574	CODF 12
12/06/77		08:48	.18	.27	175	1575	CODF 27
12/06/77		08:50	1.73	.27	176	1576	CODF 24
12/06/77		08:52	1.73	.22	177	1577	CODF 27
12/06/77		08:53	.78	.32	178	1578	CODF 05
12/06/77		08:54	.68	.32	179	1579	CODF 12
12/06/77		08:55	.68	.27	180	1580	FUZE KNOCKED OFF BY GAGE
12/06/77		08:56	.73	.52	181	1581	CODF 12
12/06/77		08:59	2.48	.18	182	1582	CODF 24
12/06/77		09:00	.82	.32	183	1583	CODF 05
12/06/77		09:01	.68	.18	184	1584	CODF 24
12/06/77		09:02	.82	.22	185	1585	CODF 24
12/06/77		09:03	.78	.18	186	1586	CODF 27
12/06/77		09:08	4.82	.18	187	1587	CODF 24
12/06/77		09:09	.82	.22	188	1588	CODF 27
12/06/77		09:12	2.78	.18	189	1589	CODF 24
12/06/77		09:13	.82	.18	190	1590	CODF 27
12/06/77		09:15	1.82	.18	191	1591	CODF 24
12/06/77		09:17	1.82	1.65	192	1592	CODF 12
12/06/77		09:21	2.35	2.52	193	1593	CODF 16
12/06/77		09:24	.48	.65	194	1594	CODF 18
12/06/77		09:25	.35	.60	195	1595	CODF 27
12/06/77		09:26	.40	.18	196	1596	CODF 24

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

OATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MOOULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/06/77	09:27		.82	.18	197	1597	COOF 24
12/06/77	09:28		.82	.38	198	1598	COOF 05
12/06/77	09:29		.62	.38	199	1599	COOF 12
12/06/77	09:30		.62	.52	200	1600	COOF 12
12/06/77	09:32		1.48	.38	201	1601	CODE 27
12/06/77	09:45		12.62	.18	202	1602	COOF 24
12/06/77	09:47		1.82	.18	203	1603	COOF 24
12/06/77	09:53		5.82	.22	204	1604	COOF 27
12/06/77	09:58		4.78	.18	205	1605	COOF 24
12/06/77	10:22		8.82	.77	206	1606	COOF 18
12/06/77	10:24		1.23	.22	207	1607	COOF 24
12/06/77	10:26		1.78	.40	208	1608	COOF 12
12/06/77	10:27		.60	.18	209	1609	CODE 24
12/06/77	10:28		.82	.22	210	1610	COOF 24
12/06/77	10:30		1.78	.32	211	1611	COOF 18
12/06/77	10:31		.68	.18	212	1612	COOF 24
12/06/77	10:32		.82	.72	213	1613	COOF 27
12/06/77	10:34		1.28	.18	214	1614	COOF 24
12/06/77	10:35		.82	.18	215	1615	COOF 24
12/06/77	10:38		2.82	.18	216	1616	COOF 24
12/06/77	10:40		1.82	.40	217	1617	COOF 12
12/06/77	10:43		2.60	.18	218	1618	COOF 24
12/06/77	10:45		1.82	.52	219	1619	COOF 12
12/06/77	10:46		.48	.22	220	1620	COOF 24
12/06/77	10:49		2.78	.77	221	1621	COOF 18
12/06/77	10:51		1.23	.18	222	1622	COOF 24
12/06/77	10:52		.82	.27	223	1623	CODE 27
12/06/77	10:53		.73	.18	224	1624	CODE 27
12/06/77	10:56		2.82	.27	225	1625	COOF 27
12/06/77	10:57		.73	.27	226	1626	COOF 27
12/06/77	11:00		2.73	.27	227	1627	COOF 11
12/06/77	11:01		.73	.72	228	1628	COOF 24
12/06/77	11:05		3.28	.18	229	1629	COOF 27
12/06/77	11:07		1.82	.47	230	1630	COOF 11
12/06/77	11:11		3.53	.32	231	1631	COOF 24
12/06/77	11:13		1.68	.72	232	1632	CODE 27
12/06/77	11:14		.28	.18	233	1633	CODE 24
12/06/77	11:17		2.82	.18	234	1634	COOF 24
12/06/77	11:18		.82	.40	235	1635	CODE 27
12/06/77	11:19		.60	1.27	236	1636	COOF 11

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/06/77		11:21	.73	.27	237	1637	CODE 18
12/06/77		11:23	1.73	.22	238	1638	CODE 12
12/06/77		11:24	.78	.18	239	1639	CODE 24
12/06/77		11:28	3.82	.22	240	1640	CODE 24
12/06/77		11:31	2.78	.18	241	1641	CODE 24
12/06/77		11:32	.82	.27	242	1642	CODE 11
12/06/77		11:33	.73	1.07	243	1643	FUZF KMOCKED OFF BY GAGF
12/06/77		11:35	.93	.38	244	1644	CODE 12
12/06/77		11:36	.62	.18	245	1645	CODE 27
12/06/77		11:37	.82	.18	246	1646	CODE 24
12/06/77		11:38	.82	.40	247	1647	CODE 12
12/06/77		11:43	4.60	.18	248	1648	CODE 24
12/06/77		11:44	.82	.22	249	1649	CODE 24
12/06/77		11:49	4.78	.22	250	1650	CODE 27
12/06/77		11:57	7.78	.27	251	1651	CODE 12
12/06/77		11:58	.73	.18	252	1652	CODE 24
12/06/77		12:38	9.82	.22	253	1653	CODE 24
12/06/77		12:40	1.78	.72	254	1654	CODE 12
12/06/77		12:41	.28	1.82	255	1655	CODE 18
12/06/77		12:44	1.18	.27	256	1656	CODE 27
12/06/77		12:46	1.73	.22	257	1657	CODE 27
12/06/77		12:47	.78	.18	258	1658	CODE 24
12/06/77		12:50	2.82	.22	259	1659	CODE 27
12/06/77		12:51	.78	.60	260	1660	CODE 12
12/06/77		12:52	.40	.32	261	1661	CODE 24
12/06/77		12:53	.68	.22	262	1662	CODE 12
12/06/77		12:54	.78	.18	263	1663	CODE 12
12/06/77		12:55	.82	1.38	264	1664	CODE 12
12/06/77		12:58	1.62	.32	265	1665	CODE 11
12/06/77		END OF SHIFT AT 12:59					
12/07/77	08:00	08:04	4.68	.38	266	1666	CODE 12
12/07/77		08:13	8.62	.60	267	1667	CODE 27
12/07/77		08:15	1.40	.52	268	1668	CODE 12
12/07/77		08:16	.48	.40	269	1669	CODE 12
12/07/77		08:19	2.60	.18	270	1670	CODE 24
12/07/77		09:20	.82	.40	271	1671	CODE 27
12/07/77		08:21	.60	.32	272	1672	CODE 12
12/07/77		08:22	.68	.18	273	1673	CODE 24

MODULE 5 = FUTE ASSEMBLY STATION 4			(CONTD)		STATION 304 AT KAAP		
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF RPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
-----	-----	-----	-----	-----	-----	-----	-----
12/07/77		08:24	1.82	.27	274	1674	CDDF 11
12/07/77		08:25	.73	4.10	275	1675	CDDF 28
12/07/77		08:30	.90	.1A	276	1676	CDDF 24
12/07/77		08:32	1.82	2.77	277	1677	CDDF 12
12/07/77		08:37	2.23	.90	27A	1678	CDDF 28
12/07/77		08:38	.10	.27	27A	1679	CDDF 27
12/07/77		08:40	1.73	.40	280	16A0	CDDF 12
12/07/77		08:41	.60	.27	281	1681	CDDF 12
12/07/77		08:42	.73	.32	282	16A2	CDDF 12
12/07/77		08:44	1.68	.1A	283	16A3	CDDF 24
12/07/77		08:46	1.82	.22	284	16A4	CDDF 27
12/07/77		08:4A	1.78	1.82	285	16A5	CDDF 28
12/07/77		08:50	.18	.22	286	16A6	CDDF 27
12/07/77		08:51	.78	.1A	287	1687	CDDF 24
12/07/77		08:53	1.82	.40	288	1688	CDDF 24
12/07/77		08:55	1.60	.32	289	1689	CDDF 12
12/07/77		08:56	.68	.27	290	1690	CDDF 27
12/07/77		08:57	.73	.1A	291	1691	CDDF 27
12/07/77		0A:5A	.82	.65	292	1692	CDDF 02
12/07/77		09:00	1.35	.40	293	1693	CDDF 18
12/07/77		09:01	.60	.52	294	1694	CDDF 18
12/07/77		09:05	3.48	.1A	295	1695	CDDF 24
12/07/77		09:10	4.82	1.3A	296	1696	CDDF 02
12/07/77		09:13	1.62	.38	297	1697	CDDF 02
12/07/77		09:15	1.62	.32	29A	1698	CDDF 12
12/07/77		09:16	.68	.1A	299	1699	CDDF 24
12/07/77		09:1A	1.82	.1A	300	1700	CDDF 24
12/07/77		09:23	4.82	.22	301	1701	CDDF 27
12/07/77		09:24	.78	.1A	302	1702	CDDF 24
12/07/77		09:25	.82	3.77	303	1703	CDDF 28
12/07/77		09:31	2.23	.1A	304	1704	CDDF 24
12/07/77		09:32	.82	.77	305	1705	CDDF 18
12/07/77		09:33	.23	.1A	306	1706	CDDF 24
12/07/77		09:34	.82	.32	307	1707	CDDF 12
12/07/77		09:35	.68	.1A	30A	1708	CDDF 24
12/07/77		09:36	.82	.1A	309	1709	CDDF 24
12/07/77		09:41	4.82	.22	310	1710	CDDF 24
12/07/77		09:42	.78	.1A	311	1711	CDDF 24
12/07/77		09:43	.82	.1A	312	1712	CDDF 24
12/07/77		09:49	5.82	.27	313	1713	CDDF 27

MODULE 5 = FUZE ASSEMBLY STATION 4				(CONTD)		STATION 304 AT KAAP	
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/07/77		09:53	3.73	.27	314	1714	CODF 24
12/07/77		09:57	3.73	.40	315	1715	CODF 02
12/07/77		10:18	5.60	2.10	316	1716	CODF 12
12/07/77		10:21	.90	.72	317	1717	CODF 12
12/07/77		10:23	1.28	.55	318	1718	CODF 12
12/07/77		10:24	.45	.38	319	1719	CODF 12
12/07/77		10:25	.62	.65	320	1720	CODF 03
12/07/77		10:26	.35	.38	321	1721	CODF 12
12/07/77		10:27	.62	.38	322	1722	CODF 12
12/07/77		10:28	.62	.55	323	1723	CODF 12
12/07/77		10:29	.45	.27	324	1724	CODF 11
12/07/77		10:30	.73	.82	325	1725	CODF 1A
12/07/77		10:32	1.18	.27	326	1726	CODF 27
12/07/77		10:35	2.73	.38	327	1727	CODF 02
12/07/77		10:36	.62	.27	328	1728	CODF 27
12/07/77		10:37	.73	.82	329	1729	CODF 12
12/07/77		10:40	2.18	2.07	330	1730	CODF 16
12/07/77		10:43	.93	.85	331	1731	CODF 12
12/07/77		10:44	.15	.38	332	1732	CODF 11
12/07/77		10:49	4.62	.27	333	1733	CODF 12
12/07/77		10:50	.73	.18	334	1734	CODF 24
12/07/77		10:52	1.82	.18	335	1735	CODF 24
12/07/77		10:55	2.82	.18	336	1736	CODF 24
12/07/77		10:56	.82	.60	337	1737	CODF 16
12/07/77		10:58	1.40	.22	338	1738	CODF 12
12/07/77		10:59	.78	.18	339	1739	CODF 24
12/07/77		11:00	.82	.38	340	1740	CODF 11
12/07/77		11:02	1.62	.18	341	1741	CODF 24
12/07/77		11:04	1.82	.27	342	1742	CODF 12
12/07/77		11:06	1.73	.22	343	1743	CODF 27
12/07/77		11:07	.78	.32	344	1744	CODF 12
12/07/77		11:08	.68	3.10	345	1745	CODF 16
12/07/77		11:12	.90	.27	346	1746	CODF 12
12/07/77		11:16	3.73	.22	347	1747	CODF 27
12/07/77		11:17	.78	.18	348	1748	CODF 24
12/07/77		11:21	3.82	.18	349	1749	CODF 24
12/07/77		11:22	.82	.55	350	1750	CODF 12
12/07/77		11:24	1.45	.22	351	1751	CODF 27
12/07/77		11:25	.78	.22	352	1752	CODF 18
12/07/77		11:26	.78	.60	353	1753	CODF 02

MODULE 5 = FUTE ASSEMBLY STATION 4				(CONTD)		STATION 304 AT KAAP	
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/07/77	11:27		.40	.1A	354	1754	CODF 24
12/07/77	11:29		1.82	.22	355	1755	CODF 24
12/07/77	11:31		1.78	.82	356	1756	CODF 15
12/07/77	11:33		1.18	1.40	357	1757	CODF 25
12/07/77	11:36		1.60	4.22	35A	1758	CODF 2A
12/07/77	11:43		2.78	2.1A	359	1759	MISC PROBLEM
12/07/77	11:47		1.82	.22	360	1760	CODF 12
12/07/77	11:51		3.78	.1A	361	1761	CODF 24
12/07/77	11:55		3.82	.3A	362	1762	CODF 02
12/07/77	11:58		2.62	.1A	363	1763	CODF 24
12/07/77	12:32		3.82	.40	364	1764	CODF 12
12/07/77	12:35		2.60	1.07	365	1765	CODF 12
12/07/77	12:37		.93	.22	366	1766	CODF 18
12/07/77	12:38		.78	.32	367	1767	CODF 12
12/07/77	12:40		1.68	.38	368	1768	CODF 12
12/07/77	12:41		.62	3.27	369	1769	CODF 02
12/07/77	12:45		.73	.87	370	1770	CODF 02
12/07/77	12:46		.13	2.07	371	1771	CODF 11
12/07/77	12:49		.93	.27	372	1772	CODF 11
12/07/77	12:50		.73	.32	373	1773	CODF 12
12/07/77	12:51		.68	1.00	374	1774	CODF 02
12/07/77	12:52		0.00	.27	375	1775	CODF 18
12/07/77	12:53		.73	.39	376	1776	CODF 12
12/07/77	12:54		.62	.40	377	1777	CODF 12
12/07/77	12:56		1.60	4.85	37A	1778	CODF 16
12/07/77	13:01		.15	.32	379	1779	CODF 12
12/07/77	13:02		.68	.90	380	1780	CODF 18
12/07/77	13:03		.10	.40	381	1781	CODF 12
12/07/77	13:04		.60	.27	382	1782	CODF 24
12/07/77	13:05		.73	.52	383	1783	CODF 12
12/07/77	13:06		.48	1.02	384	1784	CODF 12
12/07/77	13:08		.98	.1A	385	1785	CODF 12
12/07/77	13:09		.82	.40	386	1786	CODF 12
12/07/77	13:11		1.60	.65	387	1787	CODF 12
12/07/77	13:12		.35	.55	388	1788	CODF 12
12/07/77	13:13		.45	.1A	389	1789	CODF 24
12/07/77	13:14		.82	.55	390	1790	CODF 12
12/07/77	13:15		.45	.1A	391	1791	CODF 24
12/07/77	13:16		.82	.22	392	1792	CODF 24
12/07/77	13:17		.78	.1A	393	1793	CODF 24

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/07/77	13:18	.82	3.65	394	1794	CODF 29	
12/07/77	13:22	.35	1.22	395	1795	CODF 29	
12/07/77	13:24	.78	.85	396	1796	CODF 12	
12/07/77	13:25	.15	.3A	397	1797	CODF 12	
12/07/77	13:26	.62	.1A	39A	179A	CODF 24	
12/07/77	13:27	.82	.1A	399	1799	CODF 24	
12/07/77	13:28	.82	1.10	400	1800	CODF 02	
12/07/77	13:30	.90	.40	401	1801	CODF 12	
12/07/77	13:31	.60	.55	402	1802	CODF 12	
12/07/77	13:32	.45	.1A	403	1803	CODF 24	
12/07/77	13:33	.82	.3A	404	1804	CODF 12	
12/07/77	13:35	1.62	1.82	405	1805	CODF 29	
12/07/77	13:37	.18	.1A	406	1806	CODF 24	
12/07/77	13:38	.82	.52	407	1807	CODF 12	
12/07/77	13:39	.48	.85	408	1808	CODF 12	
12/07/77	13:42	2.15	.1A	409	1809	CODF 24	
12/07/77	13:45	2.82	.1A	410	1810	CODF 24	
12/07/77	13:48	2.42	1.02	411	1811	CODF 02	
12/07/77	13:53	3.98	.22	412	1812	CODF 12	
12/07/77	13:57	3.78	.1A	413	1813	CODF 24	
12/07/77	14:18	5.82	.1A	414	1814	CODF 24	
12/07/77	14:19	.82	.3A	415	1815	CODF 27	
12/07/77	14:24	4.62	.90	416	1816	CODF 02	
12/07/77	14:29	4.10	.55	417	1817	CODF 12	
12/07/77	14:30	.45	.3A	41A	181A	CODF 27	
12/07/77	14:31	.62	.22	419	1819	CODF 12	
12/07/77	14:32	.78	.82	420	1820	CODF 02	
12/07/77	14:33	.18	.1A	421	1821	CODF 24	
12/07/77	14:34	.82	.1A	422	1822	CODF 24	
12/07/77	14:35	.82	.40	423	1823	CODF 02	
12/07/77	14:36	.60	2.3A	424	1824	CODF 12	
12/07/77	14:41	2.62	.40	425	1825	CODF 12	
12/07/77	14:42	.60	.1A	426	1826	CODF 24	
12/07/77	14:43	.82	.65	427	1827	CODF 02	
12/07/77	14:45	1.35	.1A	42A	182A	CODF 24	
12/07/77	14:46	.82	.1A	429	1829	CODF 24	
12/07/77	14:47	.82	.3A	430	1830	CODF 12	
12/07/77	14:4A	.62	.47	431	1831	CODF 1A	
12/07/77	14:49	.53	.47	432	1832	CODF 12	
12/07/77	14:50	.53	.3A	433	1833	CODF 12	

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/07/77		14:51	.62	.1A	434	1834	CODF 24
12/07/77		14:52	.82	.72	435	1835	CODF 02
12/07/77		14:53	.28	.1A	436	1836	CODF 24
12/07/77		14:54	.82	.1A	437	1837	CODF 24
12/07/77		14:55	.82	.1A	438	1838	CODF 24
12/07/77		14:56	.82	.22	439	1839	CODF 24
12/07/77		14:57	.78	.1A	440	1840	CODF 24
12/07/77		14:58	.82	.40	441	1841	CODF 12
12/07/77		14:59	.60	.3A	442	1842	CODF 11
12/07/77		15:00	.62	.1A	443	1843	CODF 24
12/07/77		15:01	.82	.3A	444	1844	CODF 12
12/07/77		15:02	.62	.22	445	1845	CODF 24
12/07/77		15:03	.78	.22	446	1846	CODF 24
12/07/77		15:04	.78	.1A	447	1847	CODF 24
12/07/77		15:05	.82	1.00	448	1848	CODF 02
12/07/77		15:08	2.00	.1A	449	1849	CODF 24
12/07/77		15:09	.82	.22	450	1850	CODF 27
12/07/77		15:10	.78	.3A	451	1851	CODF 12
12/07/77		15:11	.62	.20	452	1852	CODF 24
12/07/77		15:12	.80	.20	453	1853	CODF 24
12/07/77		15:13	.80	.20	454	1854	CODF 24
12/07/77		15:14	.80	.25	455	1855	CODF 24
12/07/77		15:15	.75	.30	456	1856	CODF 27
12/07/77		15:16	.70	.35	457	1857	CODF 12
12/07/77		15:17	.65	.25	458	1858	CODF 27
12/07/77		15:18	.75	2.25	459	1859	CODF 28
12/07/77		15:21	.75	.20	460	1860	CODF 24
12/07/77		15:22	.80	.45	461	1861	CODF 02
12/07/77		15:23	.55	.20	462	1862	CODF 24
12/07/77		15:25	1.80	.20	463	1863	CODF 24
12/07/77		15:26	.80	.25	464	1864	CODF 24
12/07/77		15:27	.75	.20	465	1865	CODF 24
12/07/77		15:28	.80	.55	466	1866	CODF 12
12/07/77		15:30	1.45	.55	467	1867	CODF 12
12/07/77		15:31	.45	1.60	468	1868	CODF 12
12/07/77		15:33	.40	.20	469	1869	CODF 24
12/07/77		15:34	.80	.20	470	1870	CODF 24
12/07/77		15:35	.80	.1A	471	1871	CODF 24
12/07/77		15:36	.82	.1A	472	1872	CODF 24
12/07/77		15:37	.82	.3A	473	1873	CODF 12

MODULE 5 = FUZF ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/07/77	15:38		.62	.18	474	1874	CODF 24
12/07/77							
12/08/77	08:01						
12/08/77		08:02	3.82	.72	475	1875	CODF 12
12/08/77		08:03	.28	.77	476	1876	CODF 02
12/08/77		08:04	.23	.82	477	1877	CODF 02
12/08/77		08:06	1.18	.60	478	1878	CODF 12
12/08/77		08:08	1.40	1.22	479	1879	CODF 12
12/08/77		08:11	1.78	.32	480	1880	CODF 27
12/08/77		08:12	.68	.77	481	1881	CODF 11
12/08/77		08:13	.23	.27	482	1882	CODF 24
12/08/77		08:15	1.73	.18	483	1883	CODF 27
12/08/77		08:16	.82	.18	484	1884	CODF 27
12/08/77		08:17	.82	4.02	485	1885	CODF 11
12/08/77		08:25	3.98	.22	486	1886	CODF 18
12/08/77		08:26	.78	.77	487	1887	CODF 02
12/08/77		08:27	.23	.38	488	1888	CODF 05
12/08/77		08:28	.62	.18	489	1889	CODF 24
12/08/77		08:30	1.82	.18	490	1890	CODF 24
12/08/77		08:31	.82	.18	491	1891	CODF 24
12/08/77		08:32	.82	.65	492	1892	CODF 24
12/08/77		08:36	3.35	.32	493	1893	CODF 12
12/08/77		08:37	.68	3.22	494	1894	CODF 28
12/08/77		08:41	.78	.18	495	1895	CODF 24
12/08/77		08:42	.82	.22	496	1896	CODF 27
12/08/77		08:44	1.78	.40	497	1897	CODF 25
12/08/77		08:45	.60	1.07	498	1898	CODF 12
12/08/77		08:47	.93	.18	499	1899	CODF 24
12/08/77		08:48	.82	.18	500	1900	CODF 24
12/08/77		08:49	.82	.27	501	1901	CODF 12
12/08/77		08:51	1.73	.18	502	1902	CODF 27
12/08/77		08:53	1.82	.65	503	1903	CODF 02
12/08/77		08:57	3.35	.22	504	1904	CODF 24
12/08/77		08:59	1.78	.18	505	1905	CODF 27
12/08/77		09:02	2.82	.18	506	1906	CODF 24
12/08/77		09:04	1.82	.40	507	1907	CODF 12
12/08/77		09:07	2.60	.22	508	1908	CODF 27
12/08/77		09:10	2.78	.18	509	1909	CODF 24
12/08/77		09:13	2.82	.18	510	1910	CODF 24

MODULE 5 = FU7E ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF RPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/0A/77	09:14	.82	.52	511	1911	CODE 02	
12/0A/77	09:16	1.48	.1A	512	1912	CODE 24	
12/0A/77	09:17	.82	1.10	513	1913	CODE 25	
12/0A/77	09:19	.90	.1A	514	1914	CODE 24	
12/0A/77	09:20	.82	.1A	515	1915	CODE 27	
12/0A/77	09:26	5.82	.1A	516	1916	CODE 24	
12/0A/77	09:27	.82	.1A	517	1917	CODE 24	
12/0A/77	09:29	1.82	.22	51A	1918	CODE 12	
12/0A/77	09:30	.78	.3A	519	1919	CODE 12	
12/0A/77	09:31	.62	.27	520	1920	CODE 12	
12/0A/77	09:35	3.73	.1A	521	1921	CODE 24	
12/0A/77	09:37	1.82	.1A	522	1922	CODE 24	
12/0A/77	09:38	.82	.1A	523	1923	CODE 24	
12/0A/77	09:40	1.82	.1A	524	1924	CODE 24	
12/0A/77	09:41	.82	.1A	525	1925	CODE 24	
12/0A/77	09:42	.82	.60	526	1926	CODE 02	
12/0A/77	09:43	.40	.1A	527	1927	CODE 24	
12/0A/77	09:47	3.82	.1A	52A	1928	CODE 24	
12/0A/77	09:54	6.82	.1A	529	1929	CODE 24	
12/0A/77	09:5A	3.82	.1A	530	1930	CODE 24	
12/0A/77	10:1A	4.82	.22	531	1931	CODE 27	
12/0A/77	10:19	.78	.1A	532	1932	CODE 24	
12/0A/77	10:20	.82	.1A	533	1933	CODE 24	
12/0A/77	10:21	.82	.3A	534	1934	CODE 02	
12/0A/77	10:22	.62	.1A	535	1935	CODE 24	
12/0A/77	10:23	.82	.1A	536	1936	CODE 24	
12/0A/77	10:24	.82	.3A	537	1937	CODE 02	
12/0A/77	10:26	1.62	.1A	53A	193A	CODE 24	
12/0A/77	10:27	.82	.32	539	1939	CODE 11	
12/0A/77	10:29	1.68	.90	540	1940	CODE 02	
12/0A/77	10:30	.10	.3A	541	1941	CODE 02	
12/0A/77	10:31	.62	.27	542	1942	CODE 02	
12/0A/77	10:32	.73	.1A	543	1943	CODE 27	
12/0A/77	10:33	.82	.1A	544	1944	CODE 24	
12/0A/77	10:34	.82	.1A	545	1945	CODE 24	
12/0A/77	10:35	.82	.55	546	1946	CODE 02	
12/0A/77	10:36	.45	.1A	547	1947	CODE 24	
12/0A/77	10:37	.82	.1A	54A	194A	CODE 24	
12/0A/77	10:3A	.82	.1A	549	1949	CODE 24	
12/0A/77	10:39	.82	.82	550	1950	CODE 12	

MODULE	S	= FUZE ASSEMBLY STATION	4	(CONTD)	STATION 304 AT KAAP		
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/08/77	10:40	.18	.18	.18	551	1951	CONF 24
12/08/77	10:42	1.82	.52	.52	552	1952	CONF 02
12/08/77	10:45	2.48	.22	.22	553	1953	CONF 27
12/08/77	10:47	1.78	.65	.65	554	1954	CONF 02
12/08/77	10:52	4.35	.60	.60	555	1955	CONF 02
12/08/77	10:53	.40	.22	.22	556	1956	CONF 27
12/08/77	10:55	1.78	.27	.27	557	1957	CONF 12
12/08/77	10:56	.73	.47	.47	558	1958	CONF 12
12/08/77	10:57	.53	.90	.90	559	1959	CONF 12
12/08/77	10:58	.10	.18	.18	560	1960	CONF 27
12/08/77	11:00	1.82	.18	.18	561	1961	CONF 24
12/08/77	11:02	1.82	.77	.77	562	1962	CONF 27
12/08/77	11:03	.23	.47	.47	563	1963	CONF 12
12/08/77	11:04	.53	.18	.18	564	1964	CONF 24
12/08/77	11:05	.82	.38	.38	565	1965	CONF 12
12/08/77	11:06	.62	.18	.18	566	1966	CONF 24
12/08/77	11:07	.82	.18	.18	567	1967	CONF 24
12/08/77	11:08	.82	.82	1.18	568	1968	CONF 12
12/08/77	11:10	.82	.68	2.32	569	1969	CLUTCH LOCKED IIP
12/08/77	11:13	.73	.27	.27	570	1970	CONF 11
12/08/77	11:14	.82	.77	.77	571	1971	CONF 24
12/08/77	11:15	.82	.77	.77	572	1972	CONF 02
12/08/77	11:17	1.23	.40	.40	573	1973	CONF 11
12/08/77	11:20	.60	.38	.38	574	1974	CONF 12
12/08/77	11:21	.62	1.18	1.18	575	1975	CONF 12
12/08/77	11:23	.82	.60	.60	576	1976	CONF 02
12/08/77	11:24	.40	.47	.47	577	1977	CONF 02
12/08/77	11:30	4.77	.18	.18	578	1978	CONF 24
12/08/77	11:32	1.82	.52	.52	579	1979	CONF 02
12/08/77	11:33	.48	.38	.38	580	1980	CONF 02
12/08/77	11:34	.62	.22	.22	581	1981	CONF 18
12/08/77	11:35	.78	.18	.18	582	1982	CONF 24
12/08/77	11:38	2.82	.27	.27	583	1983	CONF 27
12/08/77	11:39	.73	.18	.18	584	1984	CONF 24
12/08/77	11:40	.82	.82	.82	585	1985	CONF 02
12/08/77	11:43	2.18	1.52	1.52	586	1986	CONF 16
12/08/77	11:49	4.48	.18	.18	587	1987	CONF 24
12/08/77	11:50	.82	.40	.40	588	1988	CONF 18
12/08/77	11:53	2.60	.18	.18	589	1989	CONF 24
12/08/77	11:57	3.82	.18	.18	590	1990	CONF 24

MODULF 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/0A/77		12:34	6.82	.1A	591	1991	CODF 24
12/0A/77		12:36	1.82	.1A	592	1992	CODF 24
12/0A/77		12:37	.82	.72	593	1993	CODF 12
12/0A/77		12:39	1.28	.52	594	1994	CODF 02
12/0A/77		12:40	.48	.27	595	1995	CODF 11
12/0A/77		12:41	.73	.1A	596	1996	CODF 24
12/0A/77		12:42	.82	.60	597	1997	CODF 12
12/0A/77		12:43	.40	.1A	598	1998	CODF 24
12/0A/77		12:44	.82	.1A	599	1999	CODF 24
12/0A/77		12:45	.82	.1A	600	2000	CODF 24
12/0A/77		12:46	.82	.1A	601	2001	CODF 24
12/0A/77		12:47	.82	.47	602	2002	CODF 1A
12/0A/77		12:48	.53	.3A	603	2003	CODF 12
12/0A/77		12:49	.62	.32	604	2004	CODF 27
12/0A/77		12:50	.68	.32	605	2005	CODF 12
12/0A/77		12:52	1.68	.1A	606	2006	CODF 24
12/0A/77		12:54	1.82	.1A	607	2007	CODF 24
12/0A/77		12:55	.82	.1A	608	2008	CODF 24
12/0A/77		12:56	.82	.32	609	2009	CODF 12
12/0A/77		12:57	.68	.22	610	2010	CODF 27
12/0A/77		12:58	.78	.60	611	2011	CODF 02
12/0A/77		13:00	1.40	.1A	612	2012	CODF 24
12/0A/77		13:01	.82	.1A	613	2013	CODF 24
12/0A/77		13:02	.82	.1A	614	2014	CODF 24
12/0A/77		13:03	.82	.1A	615	2015	CODF 24
12/0A/77		13:04	.82	.82	616	2016	CODF 02
12/0A/77		13:05	.18	.1A	617	2017	CODF 24
12/0A/77		13:06	.82	.3A	618	2018	CODF 05
12/0A/77		13:07	.62	.1A	619	2019	CODF 24
12/0A/77		13:09	1.82	1.07	620	2020	CODF 25
12/0A/77		13:12	1.93	1.85	621	2021	CODF 12
12/0A/77		13:14	.15	.47	622	2022	CODF 02
12/0A/77		13:15	.53	.1A	623	2023	CODF 24
12/0A/77		13:18	2.82	.1A	624	2024	CODF 24
12/0A/77		13:19	.A2	.1A	625	2025	CODF 24
12/0A/77		13:23	3.82	.32	626	2026	CODF 27
12/0A/77		13:25	1.68	.55	627	2027	CODF 12
12/0A/77		13:26	.45	.3A	628	2028	CODF 12
12/0A/77		13:27	.62	.1A	629	2029	CODF 24
12/0A/77		13:29	1.82	.1A	630	2030	CODF 24

MODULE 5 = FUZE ASSEMBLY STATION 4			(CONTD)		STATION 304 AT KAAP		
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/08/77		13:32	2.82	.40	631	2031	CODF 12
12/08/77		13:33	.60	.1A	632	2032	CODF 24
12/08/77		13:34	.82	.1A	633	2033	CODF 24
12/08/77		13:35	.82	.22	634	2034	CODF 24
12/08/77		13:36	.78	.1A	635	2035	CODF 24
12/08/77		13:37	.82	.1A	636	2036	CODF 24
12/08/77		13:38	.82	.22	637	2037	CODF 27
12/08/77		13:39	.78	.3A	638	2038	CODF 11
12/08/77		13:40	.62	.47	639	2039	CODF 12
12/08/77		13:41	.53	.65	640	2040	CODF 12
12/08/77		13:42	.35	.1A	641	2041	CODF 24
12/08/77		13:43	.82	17.22	642	2042	CODF 16
12/08/77		14:20	4.78	.1A	643	2043	CODF 24
12/08/77		14:21	.82	.1A	644	2044	CODF 24
12/08/77		14:22	.82	.3A	645	2045	CODF 24
12/08/77		14:23	.62	.27	646	2046	CODF 12
12/08/77		14:24	.73	3.40	647	2047	CODF 2A
12/08/77		14:28	.60	.22	648	2048	CODF 24
12/08/77		14:29	.78	.55	649	2049	CODF 02
12/08/77		14:30	.45	.1A	650	2050	CODF 24
12/08/77		14:31	.82	.22	651	2051	CODF 24
12/08/77		14:32	.78	.1A	652	2052	CODF 24
12/08/77		14:33	.82	.40	653	2053	CODF 27
12/08/77		14:35	1.60	.1A	654	2054	CODF 24
12/08/77		14:36	.82	.27	655	2055	CODF 12
12/08/77		14:37	.73	.72	656	2056	CODF 03
12/08/77		14:38	.28	.60	657	2057	CODF 24
12/08/77		14:39	.40	.90	658	2058	CODF 24
12/08/77		14:41	1.10	1.07	659	2059	CODF 05
12/08/77		14:43	.93	.32	660	2060	CODF 12
12/08/77		14:44	.68	.90	661	2061	CODF 24
12/08/77		14:45	.10	2.1A	662	2062	CODF 24
12/08/77		14:48	.82	.90	663	2063	CODF 05
12/08/77		14:49	.10	.1A	664	2064	CODF 24
12/08/77		14:50	.82	.55	665	2065	CODF 24
12/08/77		14:51	.45	.22	666	2066	CODF 24
12/08/77		14:52	.78	.1A	667	2067	CODF 24
12/08/77		14:53	.82	.27	668	2068	CODF 24
12/08/77		14:54	.73	.27	669	2069	CODF 24
12/08/77		14:55	.73	.27	670	2070	CODF 24

MODULF 5 = FU7F ASSEMBLY STATION 4				(CONTD)		STATION 304 AT KAAP	
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/08/77		14:56	.73	.27	671	2071	CODF 24
12/08/77		14:57	.73	.1A	672		CODF 24
12/08/77		14:58	.82	.3A	673	2072	CODF 24
12/08/77		14:59	.62	.22	674	2073	CODF 24
12/08/77		15:00	.78	.27	675	2074	CODF 24
12/08/77		15:01	.73	.27	676	2075	CODF 24
12/08/77		15:02	.73	.3A	677	2076	CODF 24
12/08/77		15:03	.62	.3A	67A	2077	CODF 12
12/08/77		15:04	.62	.3A	679	2078	CODF 24
12/08/77		15:05	.62	.3A	680	2079	CODF 24
12/08/77		15:06	.73	.27	681	2080	CODF 24
12/08/77		15:07	.73	.3A	682	2081	CODF 24
12/08/77		15:08	.62	.3A	683	2082	CODF 24
12/08/77		15:09	.62	.3A	684	2083	CODF 12
12/08/77		15:10	.62	.3A	685	2084	CODF 24
12/08/77		15:11	.62	.47	686	2085	CODF 12
12/08/77		15:12	.53	.47	687	2086	CODF 24
12/08/77		15:13	.53	.3A	688	2087	CODF 24
12/08/77		15:14	.62	1.82	689	2088	CODF 24
12/08/77		15:22	.97	.55	690	2089	CODF 24
12/08/77		15:23	.45	.72	691	2090	CODF 02
12/08/77		15:24	.28	.22	692	2091	CODF 18
12/08/77		15:25	.78	.27	693	2092	CODF 27
12/08/77		15:27	1.73	.27	694	2093	CODF 24
12/08/77		15:28	.73	.27	695	2094	CODF 24
12/08/77		15:29	.73	.27	696	2095	CODF 24
12/08/77		15:30	.73	.27	697	2096	CODF 24
12/08/77		15:31	.73	.27	69A	2097	CODF 24
12/08/77		15:32	.73	.27	699	2098	CODF 24
12/08/77		15:33	.73	.27	700	2099	CODF 24
12/08/77		15:34	.73	.65	701	2100	CODF 24
12/08/77		15:35	.35	.22	702	2101	CODF 12
12/08/77		15:37	1.78	.1A	703	2102	CODF 24
12/08/77		15:38	.82	.1A	704	2103	CODF 24
12/08/77		15:40	1.82	.3A	705	2104	CODF 24
12/08/77		15:41	.62	.32	706	2105	CODF 24
12/08/77		15:42	.68	.22	707	2106	CODF 12
12/08/77		15:43	.78	.1A	70A	2107	CODF 24
12/08/77		15:44	.82	.1A	709	2108	CODF 12
12/08/77		15:45	.82	.1A	710	2109	CODF 24
12/08/77						2110	CODF 24

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTO) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/08/77	15:47	1.82	.40	211			CODE 24
12/08/77	08:08	08:08	.60	712	2112		CODE 12
12/09/77	08:09	08:09	1.02	713	2113		CODE 12
12/09/77	08:11	08:11	.98	714	2114		CODE 24
12/09/77	08:12	08:12	.82	715	2115		CODE 24
12/09/77	08:15	08:15	2.82	716	2116		CODE 12
12/09/77	08:16	08:16	.53	717	2117		CODE 24
12/09/77	08:17	08:17	.62	718	2118		CODE 24
12/09/77	08:18	08:18	.68	719	2119		CODE 24
12/09/77	08:20	08:20	1.82	720	2120		CODE 24
12/09/77	08:21	08:21	.10	721	2121		CODE 11
12/09/77	08:22	08:22	.18	722	2122		CODE 24
12/09/77	08:24	08:24	1.82	723	2123		CODE 24
12/09/77	08:25	08:25	.82	724	2124		CODE 12
12/09/77	08:26	08:26	.48	725	2125		CODE 12
12/09/77	08:27	08:27	.73	726	2126		CODE 27
12/09/77	08:28	08:28	.78	727	2127		CODE 24
12/09/77	08:29	08:29	.82	728	2128		CODE 24
12/09/77	08:30	08:30	.82	729	2129		CODE 18
12/09/77	08:31	08:31	.35	730	2130		FUZF KNOCKED OFF BY GAGE
12/09/77	08:34	08:34	.12	731	2131		CODE 12
12/09/77	08:38	08:38	3.23	732	2132		CODE 12
12/09/77	08:40	08:40	1.73	733	2133		CODE 24
12/09/77	08:43	08:43	2.73	734	2134		CODE 12
12/09/77	08:44	08:44	.68	735	2135		CODE 27
12/09/77	08:45	08:45	.78	736	2136		CODE 24
12/09/77	08:48	08:48	2.82	737	2137		CODE 27
12/09/77	08:50	08:50	1.82	738	2138		CODE 11
12/09/77	08:55	08:55	4.48	739	2139		CODE 12
12/09/77	08:56	08:56	.68	740	2140		CODE 12
12/09/77	08:57	08:57	.40	741	2141		CODE 12
12/09/77	08:58	08:58	.78	742	2142		CODE 27
12/09/77	08:59	08:59	.78	743	2143		CODE 12
12/09/77	09:03	09:03	2.52	744	2144		CODE 24
12/09/77	09:05	09:05	1.82	745	2145		CODE 24
12/09/77	09:11	09:11	5.82	746	2146		CODE 12
12/09/77	09:14	09:14	2.10	747	2147		CODE 27

MODULE 5 = FU7F ASSEMBLY STATION 4				(CONTD)		STATION 304 AT KAAP	
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/09/77		09:15	.78	.18	748	2148	CODE 24
12/09/77		09:17	1.82	.22	749	2149	CODE 27
12/09/77		09:18	.78	.22	750	2150	CODE 24
12/09/77		09:20	1.78	.18	751	2151	CODE 24
12/09/77		09:21	.82	.18	752	2152	CODE 24
12/09/77		09:23	1.82	1.38	753	2153	CODE 12
12/09/77		09:24	3.62	.18	754	2154	CODE 24
12/09/77		09:29	.82	.27	755	2155	CODE 27
12/09/77		09:30	.73	.32	756	2156	CODE 12
12/09/77		09:32	1.68	.18	757	2157	CODE 24
12/09/77		09:35	2.82	.38	758	2158	CODE 12
12/09/77		09:37	1.62	.82	759	2159	CODE 12
12/09/77		09:39	1.18	.18	760	2160	CODE 24
12/09/77		09:41	1.82	.22	761	2161	CODE 24
12/09/77		09:42	.78	.18	762	2162	CODE 24
12/09/77		09:44	1.82	.18	763	2163	CODE 24
12/09/77		09:49	4.82	.52	764	2164	CODE 12
12/09/77		09:52	2.48	.27	765	2165	CODE 27
12/09/77		10:17	9.73	.38	766	2166	CODE 12
12/09/77		10:19	1.62	.18	767	2167	CODE 24
12/09/77		10:20	.82	.22	768	2168	CODE 24
12/09/77		10:24	3.78	.18	769	2169	CODE 24
12/09/77		10:27	2.82	.22	770	2170	CODE 24
12/09/77		10:28	.78	.22	771	2171	CODE 24
12/09/77		10:30	1.78	.18	772	2172	CODE 24
12/09/77		10:31	.82	.22	773	2173	CODE 24
12/09/77		10:32	.78	.42	774	2174	CODE 12
12/09/77		10:33	.58	.18	775	2175	CODE 24
12/09/77		10:34	.82	.18	776	2176	CODE 24
12/09/77		10:35	.82	.32	777	2177	CODE 12
12/09/77		10:36	.68	2.00	778	2178	CODE 25
12/09/77		10:38	0.00	.22	779	2179	CODE 24
12/09/77		10:39	.78	.18	780	2180	CODE 24
12/09/77		10:40	.82	.22	781	2181	CODE 24
12/09/77		10:41	.78	.18	782	2182	CODE 24
12/09/77		10:42	.82	.18	783	2183	CODE 24
12/09/77		10:43	.82	.38	784	2184	CODE 24
12/09/77		10:44	.62	.22	785	2185	CODE 27
12/09/77		10:45	.78	.18	786	2186	CODE 24
12/09/77		10:46	.82	.52	787	2187	CODE 03

MODULE 5 = FUZE ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/09/77		10:47	.48	2.00	78A	218A	CODF 24
12/09/77		10:49	0.00	.2A	789	2189	CODF 24
12/09/77		10:50	.72	.1A	790	2190	CODF 24
12/09/77		10:51	.82	.22	791	2191	CODF 24
12/09/77		10:52	.78	.1A	792	2192	CODF 24
12/09/77		10:53	.82	.1A	793	2193	CODF 24
12/09/77		10:54	.82	.22	794	2194	CODF 24
12/09/77		10:55	.78	.1A	795	2195	CODE 24
12/09/77		10:56	.82	1.07	796	2196	CODF 12
12/09/77		10:58	.93	.1A	797	2197	CODF 24
12/09/77		10:59	.82	.22	79A	219A	CODF 27
12/09/77		11:00	.78	.1A	799	2199	CODF 24
12/09/77		11:01	.82	.1A	800	2200	CODF 24
12/09/77		11:02	.82	.1A	801	2201	CODF 24
12/09/77		11:03	.82	.1A	802	2202	CODF 24
12/09/77		11:04	.82	.22	803	2203	CODF 24
12/09/77		11:05	.78	2.82	804	2204	CODF 24
12/09/77		11:08	.18	.1A	805	2205	CODF 24
12/09/77		11:09	.82	.1A	806	2206	CODF 24
12/09/77		11:10	.82	.27	807	2207	CODF 27
12/09/77		11:12	1.73	.32	80A	220A	CODF 12
12/09/77		11:13	.68	.1A	809	2209	CODE 24
12/09/77		11:15	1.82	.82	810	2210	CODF 25
12/09/77		11:17	1.18	.40	811	2211	CODF 11
12/09/77		11:19	1.60	.22	812	2212	CODF 27
12/09/77		11:20	.78	.1A	813	2213	CODF 24
12/09/77		11:22	1.82	.47	814	2214	CODF 02
12/09/77		11:25	2.53	.1A	815	2215	CODF 24
12/09/77		11:27	1.82	.1A	816	2216	CODF 24
12/09/77		11:31	3.82	.32	817	2217	CODF 27
12/09/77		11:32	.68	.1A	81A	221A	CODF 24
12/09/77		11:37	4.82	.1A	819	2219	CODF 24
12/09/77		11:40	2.82	.40	820	2220	CODF 12
12/09/77		11:41	.60	.1A	821	2221	CODF 24
12/09/77		11:45	3.82	.1A	822	2222	CODF 24
12/09/77		11:49	3.82	.1A	823	2223	CODF 24
12/09/77		11:50	.82	.32	824	2224	CODF 27
12/09/77		11:57	6.68	.1A	825	2225	CODF 24
12/09/77		12:32	4.82	.27	826	2226	CODF 24
12/09/77		12:34	1.73	.22	827	2227	CODF 24

MODULE 5 = FUZE ASSEMBLY STATION 4			(CONTO)		STATION 304 AT KAAP		
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MOOULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/09/77		12:36	1.78	.19	828	2228	COOE 24
12/09/77		12:37	.82	.39	829	2229	COOF 11
12/09/77		12:38	.62	.19	830	2230	COOF 24
12/09/77		12:39	.82	.22	831	2231	COOF 24
12/09/77		12:40	.78	.19	832	2232	COOE 24
12/09/77		12:41	.82	.32	833	2233	COOF 11
12/09/77		12:42	.68	.19	834	2234	COOE 24
12/09/77		12:43	.82	.82	835	2235	COOE 24
12/09/77		12:44	.18	.22	836	2236	FUZF KNOCKED OFF BY GAGE
12/09/77		12:45	.78	.39	837	2237	COOF 11
12/09/77		12:46	.62	.19	838	2238	COOE 24
12/09/77		12:47	.82	.39	839	2239	CODE 18
12/09/77		12:48	.62	.22	840	2240	COOE 27
12/09/77		12:49	.78	.27	841	2241	COOE 24
12/09/77		12:51	1.73	.27	842	2242	COOE 24
12/09/77		12:52	.73	.90	843	2243	COOE 24
12/09/77		12:53	.10	.19	844	2244	COOE 24
12/09/77		12:55	1.82	.19	845	2245	COOE 24
12/09/77		13:02	3.10	.22	846	2246	COOE 24
12/09/77		13:03	.78	.39	847	2247	CODE 24
12/09/77		13:07	3.62	.19	848	2248	COOE 24
12/09/77		13:10	2.82	.32	849	2249	COOE 24
12/09/77		13:12	1.68	.32	850	2250	COOE 27
12/09/77		13:14	1.68	15.73	851	2251	COOE 16
12/09/77		13:33	3.27	.60	852	2252	CODE 18
12/09/77		13:34	.40	7.38	853	2253	COOF 16
12/09/77		13:42	.62	.47	854	2254	COOE 18
12/09/77		13:44	1.53	4.55	855	2255	COOF 16
12/09/77		13:49	.45	.19	856	2256	CODE 24
12/09/77		13:50	.82	.65	857	2257	CODE 24
12/09/77		13:51	.35	.19	858	2258	COOF 24
12/09/77		13:52	.82	.19	859	2259	COOF 24
12/09/77		13:53	.82	.55	860	2260	COOF 12
12/09/77		13:54	.45	.40	861	2261	COOF 11
12/09/77		13:57	2.60	1.10	862	2262	COOF 12
12/09/77		14:16	2.90	.19	863	2263	COOF 24
12/09/77		14:17	.82	.22	864	2264	CODE 27
12/09/77		14:19	1.78	.19	865	2265	COOF 24
12/09/77		14:20	.82	.22	866	2266	COOE 24
12/09/77		14:21	.78	.40	867	2267	CODE 18

MOOULE 5 = FUZF ASSEMBLY STATION 4 (CONTD) STATION 304 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/2/09/77	14:24	2.60	.32		868	2268	CODF 12
11/2/09/77	14:26	1.68	.18		869	2269	CODF 24
11/2/09/77	14:27	.82	.18		870	2270	CODF 24
11/2/09/77	14:28	.82	.18		871	2271	CODF 24
11/2/09/77	14:30	1.82	2.47		872	2272	CODF 25
11/2/09/77	14:33	.53	.18		873	2273	CODF 25
11/2/09/77	14:34	.82	.47		874	2274	CODF 12
11/2/09/77	14:36	1.53	.32		875	2275	CODF 25
11/2/09/77	14:37	.68	.27		876	2276	CODF 11
11/2/09/77	14:38	.73	.82		877	2277	CODF 12
11/2/09/77	14:39	.18	.18		878	2278	CODF 24
11/2/09/77	14:40	.82	.18		879	2279	CODF 24
11/2/09/77	14:41	.82	.18		880	2280	CODF 24
11/2/09/77	14:42	.82	.22		881	2281	CODF 24
11/2/09/77	14:51	2.68	.38		882	2282	CODF 12
11/2/09/77	14:52	.62	.22		883	2283	CODF 27
11/2/09/77	14:53	.78	.27		884	2284	CODF 24
11/2/09/77	14:54	.73	.40		885	2285	CODF 12
11/2/09/77	14:55	.60	.47		886	2286	CODF 12
11/2/09/77	14:57	1.53	.52		887	2287	CODF 12
11/2/09/77	14:59	1.48	.18		888	2288	CODF 24
11/2/09/77	15:00	.82	.18		889	2289	CODF 24
11/2/09/77	15:01	.82	.72		890	2290	CODF 25
11/2/09/77	15:02	.28	.22		891	2291	CODF 24
11/2/09/77	15:03	.78	.60		892	2292	CODF 12
11/2/09/77	15:05	1.40	.18		893	2293	CODF 24
11/2/09/77	15:06	.82	.18		894	2294	CODF 24
11/2/09/77	15:08	1.82	.55		895	2295	CODF 11
11/2/09/77	15:09	.45	.18		896	2296	CODF 24
11/2/09/77	15:10	.82	.32		897	2297	CODF 12
11/2/09/77	15:11	.68	.47		898	2298	CODF 12
11/2/09/77	15:12	.53	.32		899	2299	CODF 12
11/2/09/77	15:13	.68	.38		900	2300	CODF 12
11/2/09/77	15:14	.62	.18		901	2301	CODF 24
11/2/09/77	15:15	.82	.27		902	2302	CODF 12
11/2/09/77	15:17	1.73	.18		903	2303	CODF 24
11/2/09/77	15:19	1.82	.38		904	2304	CODF 12
11/2/09/77	15:20	.62	.18		905	2305	CODF 24
11/2/09/77	15:21	.82	.18		906	2306	CODF 24
11/2/09/77	15:22	.82	.22		907	2307	CODF 27

MODULE 6 = FUZE ASSEMBLY STATION 6				STATION 306 AT KAAP			
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77	08:00	08:02	2.00	5.40	1	2309	CDDF 12
11/28/77		08:08	.60	6.00	2	2310	CDDF 12
11/28/77		08:15	1.00	.28	3	2311	CDDF 24
11/28/77		08:16	.72	1.77	4	2312	CDDF 16
11/28/77		08:22	4.23	1.00	5	2313	CDDF 02
11/28/77		08:24	1.00	.53	6	2314	CDDF 12
11/28/77		08:27	2.47	4.63	7	2315	ADJUST MACHINE TIMING
11/28/77		08:41	9.37	1.12	8	2316	CDDF 11
11/28/77		08:45	2.88	.43	9	2317	CDDF 02
11/28/77		08:52	6.57	.47	10	2318	CDDF 12
11/28/77		08:56	3.53	.27	11	2319	CDDF 02
11/28/77		09:01	4.73	2.58	12	2320	CDDF 25
11/28/77		09:15	11.42	.55	13	2321	CDDF 11
11/28/77		09:22	6.45	1.40	14	2322	CDDF 11
11/28/77		09:28	4.60	.65	15	2323	CDDF 18
11/28/77		09:37	8.35	1.20	16	2324	CDDF 12
11/28/77		09:39	.80	.47	17	2325	CDDF 12
11/28/77		09:42	2.53	2.28	18	2326	CDDF 11
11/28/77		10:23	38.72	.52	19	2327	CDDF 12
11/28/77		10:26	2.48	.37	20	2328	CDDF 24
11/28/77		10:34	7.63	.37	21	2329	CDDF 18
11/28/77		10:35	.63	1.77	22	2330	CDDF 02
11/28/77		10:39	2.23	.45	23	2331	CDDF 12
11/28/77		10:43	3.55	.43	24	2332	CDDF 12
11/28/77		12:30	9.57	8.20	25	2333	CDDF 11
11/28/77		12:40	1.80	.62	26	2334	CDDF 02
11/28/77		12:43	2.38	.58	27	2335	CDDF 12
11/28/77		12:44	.42	1.20	28	2336	CDDF 11
11/28/77		12:47	1.80	.47	29	2337	CDDF 24
11/28/77		12:52	4.53	.37	30	2338	CDDF 18
11/28/77		12:57	4.63	.35	31	2339	CDDF 18
11/28/77		13:21	23.65	1.20	32	2340	CDDF 12
11/28/77		13:28	5.80	.87	33	2341	CDDF 18
11/28/77		13:30	1.13	.55	34	2342	CDDF 02
11/28/77		13:35	4.45	.30	35	2343	CDDF 11
11/28/77		13:36	.70	2.65	36	2344	CDDF 11
11/28/77		13:40	1.35	1.82	37	2345	CDDF 02
11/28/77		13:49	7.18	.27	38	2346	CDDF 02
11/28/77		14:20	15.73	.52	39	2347	CDDF 11

MOOULE 6 = FUZE ASSEMBLY STATION 6 (CONTD) STATION 306 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77	14:21	14:21	.48	.63	40	2348	COOF 11
11/28/77	14:24	14:24	2.37	8.22	41	2349	COOF 11
11/28/77	14:34	14:34	1.78	.80	42	2350	COOF 21
11/28/77	14:35	14:35	.20	1.58	43	2351	COOF 21
11/28/77	14:45	14:45	8.42	4.80	44	2352	COOF 11
11/28/77	15:42	15:42	10.80	.20	45	2353	COOF 03
11/28/77			END OF SHIFT AT 15:50				
11/29/77	08:00						
11/29/77	08:06	08:06	12.60	.32	46	2354	COOF 02
11/29/77	08:17	08:17	10.68	.22	47	2355	COOF 12
11/29/77	08:26	08:26	8.78	.40	48	2356	COOF 12
11/29/77	08:38	08:38	11.60	2.20	49	2357	COOF 12
11/29/77	08:49	08:49	8.80	.27	50	2358	COOF 12
11/29/77	08:56	08:56	6.73	1.00	51	2359	COOF 11
11/29/77	09:11	09:11	14.00	.30	52	2360	COOF 02
11/29/77	09:14	09:14	2.70	.37	53	2361	COOF 24
11/29/77	09:17	09:17	2.63	.53	54	2362	COOF 12
11/29/77	09:34	09:34	16.47	.43	55	2363	COOF 12
11/29/77	09:40	09:40	5.57	.47	56	2364	COOF 12
11/29/77	10:56	10:56	59.98	.27	57	2365	COOF 18
11/29/77	11:37	11:37	40.73	1.20	58	2366	COOF 18
11/29/77	12:38	12:38	57.88	1.92	59	2367	COOF 11
11/29/77	12:46	12:46	6.08	.32	60	2368	COOF 18
11/29/77	12:54	12:54	7.68	.30	61	2369	COOF 12
11/29/77	13:02	13:02	7.70	.22	62	2370	COOF 12
11/29/77	13:05	13:05	2.78	.22	63	2371	COOF 24
11/29/77	13:09	13:09	3.78	.67	64	2372	COOF 12
11/29/77	13:13	13:13	3.33	.40	65	2373	COOF 02
11/29/77	13:17	13:17	3.60	.50	66	2374	COOF 12
11/29/77	13:18	13:18	.50	.57	67	2375	COOF 28
11/29/77	13:34	13:34	15.43	.47	68	2376	COOF 12
11/29/77	13:37	13:37	2.53	.52	69	2377	COOF 24
11/29/77	14:16	14:16	23.48	.55	70	2378	COOF 12
11/29/77	14:37	14:37	20.45	.53	71	2379	COOF 12
11/29/77	14:38	14:38	.47	.33	72	2380	COOF 12
11/29/77	14:44	14:44	5.67	1.05	73	2381	COOF 02
11/29/77	14:50	14:50	4.95	1.10	74	2382	COOF 12
11/29/77	15:00	15:00	8.90	.92	75	2383	COOF 12
11/29/77	15:04	15:04	3.08	.30	76	2384	COOF 02

MODULE 6 = FUZE ASSEMBLY STATION 6 (CONTD) STATION 306 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODUL FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/29/77	15:11	6:70	.28	77	2385		CDDF 02
11/29/77	15:12	.72	.31	78	2386		CDDF 11
11/29/77	15:30	17:67	1:28	79	2387		CDDF 12
11/29/77			END OF SHIFT AT 15:50				
11/30/77	08:00						
11/30/77	08:02	20:72	.25	80	2388		CDDF 02
11/30/77	08:15	12:75	.25	81	2389		CDDF 02
11/30/77	08:17	1:75	.63	82	2390		CDDF 12
11/30/77	08:19	1:37	1:27	83	2391		CDDF 12
11/30/77	08:24	3:73	.57	84	2392		CDDF 24
11/30/77	08:29	4:43	.55	85	2393		CDDF 12
11/30/77	08:34	4:45	.85	86	2394		CDDF 24
11/30/77	08:40	5:15	.25	87	2395		CDDF 24
11/30/77	08:41	.75	1:05	88	2396		CDDF 24
11/30/77	08:43	.95	.80	89	2397		CDDF 12
11/30/77	08:46	2:20	.63	90	2398		CDDF 12
11/30/77	08:55	4:73	.43	91	2399		CDDF 24
11/30/77	08:56	.57	.63	92	2400		CDDF 12
11/30/77	08:57	.37	1:13	93	2401		CDDF 12
11/30/77	09:01	2:87	1:58	94	2402		CDDF 12
11/30/77	09:03	.42	.68	95	2403		CDDF 12
11/30/77	09:06	2:32	.33	96	2404		CDDF 24
11/30/77	09:12	5:67	.25	97	2405		CDDF 24
11/30/77	09:13	.75	.22	98	2406		CDDF 24
11/30/77	09:18	4:78	.23	99	2407		CDDF 24
11/30/77	09:22	3:77	.22	100	2408		CDDF 24
11/30/77	09:25	2:78	.31	101	2409		CDDF 12
11/30/77	09:38	6:62	.47	102	2410		CDDF 03
11/30/77	09:39	.53	.40	103	2411		CDDF 27
11/30/77	10:18	23:60	1:50	104	2412		CDDF 11
11/30/77	10:21	1:50	.37	105	2413		CDDF 18
11/30/77	10:23	1:63	.40	106	2414		CDDF 12
11/30/77	10:26	2:60	.22	107	2415		CDDF 24
11/30/77	10:27	.78	.32	108	2416		CDDF 24
11/30/77	10:28	.68	.35	109	2417		CDDF 12
11/30/77	10:30	1:65	2:55	110	2418		CDDF 13
11/30/77	10:33	.45	2:97	111	2419		CDDF 13
11/30/77	10:37	1:03	.38	112	2420		CDDF 12
11/30/77	10:41	3:62	.33	113	2421		CDDF 24

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
11/30/77		10:46	3.15	.55	114	2422	CODF 24
11/30/77		10:53	6.45	.33	115	2423	CODF 24
11/30/77		10:54	.67	.43	116	2424	CODF 12
11/30/77		10:57	2.57	1.07	117	2425	CODF 02
11/30/77		11:13	7.00	.25	118	2426	CODF 02
11/30/77		11:19	5.75	.37	119	2427	CODF 02
11/30/77		11:21	1.63	.8A	120	2428	CODF 12
11/30/77		11:27	5.12	.25	121	2429	CODF 12
11/30/77		11:32	4.75	.25	122	2430	CODF 24
11/30/77		11:33	.75	.57	123	2431	CODF 02
11/30/77		11:34	.43	.25	124	2432	CODF 24
11/30/77		11:35	.75	.37	125	2433	CODF 24
11/30/77		11:40	4.63	2.05	126	2434	CODF 12
11/30/77		11:44	1.95	.77	127	2435	CODF 24
11/30/77		11:46	1.23	1.05	128	2436	CODF 24
11/30/77		11:48	.95	.63	129	2437	CODF 24
11/30/77		11:50	1.37	.42	130	2438	CODF 02
11/30/77		11:55	4.58	1.05	131	2439	CODF 02
11/30/77		12:35	8.95	.80	132	2440	CODF 12
11/30/77		12:36	.20	.93	133	2441	CODF 02
11/30/77		12:46	9.07	.37	134	2442	CODF 02
11/30/77		12:49	1.75	.25	135	2443	CODF 24
11/30/77		12:51	.80	.37	136	2444	CODF 12
11/30/77		12:52	.63	.25	137	2445	CODF 02
11/30/77		12:53	.75	.23	138	2446	CODF 24
11/30/77		12:55	1.77	.22	140	2447	CODF 02
11/30/77		12:56	.78	.25	141	2448	CODF 24
11/30/77		12:57	.75	.25	142	2449	CODF 24
11/30/77		12:58	.75	.2A	143	2450	CODF 24
11/30/77		12:59	.72	.27	144	2451	CODF 02
11/30/77		13:00	.73	.63	145	2452	CODF 02
11/30/77		13:01	.37	.27	146	2453	CODF 12
11/30/77		13:03	1.73	.65	147	2454	CODF 24
11/30/77		13:04	.35	.33	148	2455	CODF 02
11/30/77		13:05	.67	.5A	149	2456	CODF 02
11/30/77		13:06	.42	.80	150	2457	CODF 02
11/30/77		13:10	3.20	1.80	151	2458	CODF 12
11/30/77		13:12	.20	.27	152	2459	CODF 02
11/30/77		13:13	.73	.2A	153	2460	CODF 24
11/30/77						2461	CODF 24

MODULE 6 = FUZF ASSFMBLY STATION 6 (CONTD) STATION 306 AT KAAP

OATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MOOULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
11/30/77	13:14	.72	.23	154	2462	CODE 02	
11/30/77	13:15	.77	.30	155	2463	CODE 24	
11/30/77	13:23	7.70	.22	156	2464	CODE 12	
11/30/77	13:24	.78	.33	157	2465	CODE 12	
11/30/77	13:25	.67	.27	158	2466	CODE 12	
11/30/77	13:26	.73	1.10	159	2467	CODE 24	
11/30/77	13:28	.90	.22	160	2468	CODE 24	
11/30/77	13:32	3.78	.80	161	2469	CODE 12	
11/30/77	13:33	.20	.27	162	2470	CODE 24	
11/30/77	13:40	6.73	.53	163	2471	CODE 03	
11/30/77	13:43	2.47	.47	164	2472	CODE 12	
11/30/77	13:45	1.53	.28	165	2473	CODE 24	
11/30/77	13:47	1.72	.30	166	2474	CODE 12	
11/30/77	13:52	4.70	1.25	167	2475	CODE 12	
11/30/77	14:24	15.75	.25	168	2476	CODE 24	
11/30/77	14:25	.75	.23	169	2477	CODE 24	
11/30/77	14:26	.77	.30	170	2478	CODE 12	
11/30/77	14:30	3.70	.32	171	2479	CODE 02	
11/30/77	14:31	.68	.27	172	2480	CODE 24	
11/30/77	14:33	1.73	.32	173	2481	CODE 24	
11/30/77	14:34	.68	.35	174	2482	CODE 24	
11/30/77	14:36	1.65	.40	175	2483	CODE 08	
11/30/77	14:38	1.60	.27	176	2484	CODE 12	
11/30/77	14:40	1.73	.40	177	2485	CODE 12	
11/30/77	14:43	2.60	.37	178	2486	CODE 12	
11/30/77	14:45	1.63	.38	179	2487	CODE 11	
11/30/77	14:48	2.62	.30	180	2488	CODE 12	
11/30/77	14:49	.70	.40	181	2489	CODE 24	
11/30/77	14:54	4.60	1.07	182	2490	CODE 12	
11/30/77	14:57	1.93	1.15	183	2491	CODE 12	
11/30/77	14:59	.85	.80	184	2492	CODE 02	
11/30/77	15:00	.20	2.30	185	2493	CODE 12	
11/30/77	15:04	1.70	.32	186	2494	CODE 24	
11/30/77	15:05	.68	.75	187	2495	CODE 12	
11/30/77	15:07	1.25	.32	188	2496	CODE 12	
11/30/77	15:08	.68	2.00	189	2497	CODE 12	
11/30/77	15:12	2.00	1.25	190	2498	CODE 02	
11/30/77	15:21	7.75	.27	191	2499	CODE 24	
11/30/77	15:22	.73	.25	192	2500	CODE 24	
11/30/77	15:24	1.75	.43	193	2501	CODE 12	

MODULE 6 = FUZE ASSEMBLY STATION 6			(CONTD)		STATION 306 AT KAAP		
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
11/30/77		15:25	.57	1.25	194	2502	CODF 12
11/30/77		15:28	1.75	.25	195	2503	CODF 24
11/30/77		15:30	1.75	.93	196	2504	CODF 12
11/30/77		15:31	.07	.43	197	2505	CODF 03
11/30/77		15:33	1.57	.43	198	2506	CODF 24
11/30/77		15:34	.57	.28	199	2507	CODF 12
11/30/77		15:35	.72	.93	200	2508	CODF 12
11/30/77		15:36	.07	.68	201	2509	CODF 12
11/30/77		15:37	.32	.25	202	2510	CODF 12
11/30/77		15:38	.75	.22	203	2511	CODF 24
11/30/77		15:43	4.78	.38	204	2512	CODF 12
11/30/77		15:44	.62	.25	205	2513	CODF 12
11/30/77		15:47	2.75	.42	206	2514	CODF 12
11/30/77			END OF SHIFT AT 15:50				
12/01/77	08:00	08:04	6.58	.27	207	2515	CODF 24
12/01/77		08:08	3.73	.25	208	2516	CODF 02
12/01/77		08:11	2.75	.45	209	2517	CODF 27
12/01/77		08:13	1.55	.53	210	2518	CODF 12
12/01/77		08:16	2.47	.22	211	2519	CODF 24
12/01/77		08:17	.78	.32	212	2520	CODF 24
12/01/77		08:26	8.68	.20	213	2521	CODF 27
12/01/77		08:27	.80	.23	214	2522	CODF 24
12/01/77		08:28	.77	.25	215	2523	CODF 24
12/01/77		08:29	.75	.22	216	2524	CODF 02
12/01/77		08:30	.78	.27	217	2525	CODF 24
12/01/77		08:33	2.73	.20	218	2526	CODF 24
12/01/77		08:38	2.05	.45	219	2527	CODF 17
12/01/77		08:39	.55	.23	220	2528	CODF 24
12/01/77		08:41	1.77	.37	221	2529	CODF 24
12/01/77		08:43	1.63	.52	222	2530	CODF 24
12/01/77		08:45	1.48	.30	223	2531	CODF 12
12/01/77		08:46	.70	.23	224	2532	CODF 24
12/01/77		08:47	.77	.22	225	2533	CODF 24
12/01/77		08:48	.78	.32	226	2534	CODF 24
12/01/77		08:49	.68	.47	227	2535	CODF 24
12/01/77		08:54	4.53	.22	228	2536	CODF 24
12/01/77		08:55	.78	.22	229	2537	CODF 24
12/01/77		08:56	.78	.37	230	2538	CODF 24

MODULE 6 - FUZE ASSEMBLY STATION 6				(CONTD)		STATION 306 AT KAAP	
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/01/77		08:58	1.63	.57	231	2539	CODF 12
12/01/77		08:59	.43	.35	232	2540	CODF 24
12/01/77		09:03	3.65	.27	233	2541	CODF 24
12/01/77		09:04	.73	.25	234	2542	CODF 24
12/01/77		09:19	14.75	.30	235	2543	CODF 24
12/01/77		09:23	3.70	.25	236	2544	CODF 24
12/01/77		09:24	.75	.25	237	2545	CODF 24
12/01/77		09:25	.75	.27	238	2546	CODF 02
12/01/77		09:26	.73	.25	239	2547	CODF 24
12/01/77		09:27	.75	.20	240	2548	CODF 02
12/01/77		09:28	.80	.23	241	2549	CODF 02
12/01/77		09:29	.77	.23	242	2550	CODF 03
12/01/77		09:30	.77	.27	243	2551	CODF 24
12/01/77		09:31	.73	.38	244	2552	CODF 24
12/01/77		09:32	.62	.17	245	2553	CODF 02
12/01/77		09:34	1.83	.43	246	2554	CODF 24
12/01/77		09:36	1.57	.27	247	2555	CODF 24
12/01/77		09:37	.73	.28	248	2556	CODF 24
12/01/77		09:38	.72	.27	249	2557	CODF 02
12/01/77		09:39	.73	.42	250	2558	CODF 24
12/01/77		09:40	.58	.45	251	2559	CODF 24
12/01/77		09:42	1.55	1.05	252	2560	CODF 02
12/01/77		09:44	.95	1.22	253	2561	CODF 24
12/01/77		09:46	.78	.70	254	2562	CODF 24
12/01/77		09:47	.30	.32	255	2563	CODF 02
12/01/77		09:48	.68	.37	256	2564	CODF 02
12/01/77		10:16	12.63	.80	257	2565	CODF 12
12/01/77		10:22	5.20	.52	258	2566	CODF 24
12/01/77		10:23	.48	.25	259	2567	CODF 24
12/01/77		10:24	.75	.53	260	2568	CODF 24
12/01/77		10:25	.47	.28	261	2569	CODF 24
12/01/77		10:28	2.72	.22	262	2570	CODF 24
12/01/77		10:29	.78	.27	263	2571	CODF 24
12/01/77		10:31	1.73	.27	264	2572	CODF 24
12/01/77		10:34	2.73	.37	265	2573	CODF 24
12/01/77		10:35	.63	.13	266	2574	CODF 14
12/01/77		10:39	3.87	.75	267	2575	CODF 24
12/01/77		10:40	.25	.22	268	2576	CODF 02
12/01/77		10:41	.78	.22	269	2577	CODF 24
12/01/77		10:42	.78	.27	270	2578	CODF 02

MODULE 6 = FUZE ASSEMBLY STATION 6			(CONTD)		STATION 306 AT KAAP			
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
12/01/77		10:43	.73	.40	271	2579	CODF 24	
12/01/77		10:44	.60	.45	272	2580	CODF 24	
12/01/77		10:47	2.55	.50	273	2581	CODF 24	
12/01/77		10:51	3.50	2.23	274	2582	CODF 12	
12/01/77		10:55	1.77	.28	275	2583	CODF 24	
12/01/77		10:56	.72	.22	276	2584	CODF 24	
12/01/77		10:58	1.78	.23	277	2585	CODF 24	
12/01/77		10:59	.77	.32	278	2586	CODF 24	
12/01/77		11:00	.68	1.02	279	2587	CODF 12	
12/01/77		11:02	.98	2.77	280	2588	CODF 12	
12/01/77		11:05	.23	.28	281	2589	CODF 12	
12/01/77		11:06	.72	.38	282	2590	CODF 24	
12/01/77		11:07	.62	.18	283	2591	CODF 24	
12/01/77		11:08	.82	.25	284	2592	CODF 02	
12/01/77		11:09	.75	.33	285	2593	CODF 02	
12/01/77		11:10	.67	.55	286	2594	CODF 24	
12/01/77		11:13	2.45	.23	287	2595	CODF 24	
12/01/77		11:18	4.77	.27	288	2596	CODF 24	
12/01/77		11:20	1.73	.28	289	2597	CODF 12	
12/01/77		11:21	.72	.13	290	2598	CODF 02	
12/01/77		11:24	2.87	.53	291	2599	CODF 12	
12/01/77		11:26	1.47	.27	292	2600	CODF 24	
12/01/77		11:27	.73	.22	293	2601	CODF 02	
12/01/77		11:28	.78	.25	294	2602	CODF 24	
12/01/77		11:32	3.75	.27	295	2603	CODF 24	
12/01/77		11:35	2.73	.42	296	2604	CODF 12	
12/01/77		11:38	2.58	.28	297	2605	CODF 24	
12/01/77		11:40	1.72	.83	298	2606	CODF 12	
12/01/77		11:43	2.17	.27	299	2607	CODF 24	
12/01/77		11:45	1.73	.63	300	2608	CODF 02	
12/01/77		11:51	5.37	.25	301	2609	CODF 24	
12/01/77		12:31	9.75	.28	302	2610	CODF 24	
12/01/77		12:33	1.72	.30	303	2611	CODF 02	
12/01/77		12:34	.70	.25	304	2612	CODF 02	
12/01/77		12:35	.75	.25	305	2613	CODF 24	
12/01/77		12:36	.75	.23	306	2614	CODF 02	
12/01/77		12:37	.77	.28	307	2615	CODF 24	
12/01/77		12:38	.72	.27	308	2616	CODF 02	
12/01/77		12:40	1.73	.23	309	2617	CODF 24	
12/01/77		12:43	2.77	.22	310	2618	CODF 24	

MODULE 6 = FU7E ASSEMBLY STATION 6			(CONTD)		STATION 306 AT KAAP		
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/01/77		12:44	.78	.28	311	2619	CODE 02
12/01/77		12:50	5.72	.22	312	2620	CODE 24
12/01/77		12:51	.78	.27	313	2621	CODE 12
12/01/77		12:52	.73	.23	314	2622	CODE 24
12/01/77		12:53	.77	.57	315	2623	CODE 12
12/01/77		12:54	.43	.35	316	2624	CODE 02
12/01/77		12:55	.65	.53	317	2625	CODE 12
12/01/77		12:56	.47	.25	318	2626	CODE 24
12/01/77		12:57	.75	.25	319	2627	CODE 02
12/01/77		12:58	.75	.40	320	2628	CODE 24
12/01/77		13:02	3.60	.35	321	2629	CODE 02
12/01/77		13:03	.65	.32	322	2630	CODE 02
12/01/77		13:04	.68	.25	323	2631	CODE 24
12/01/77		13:05	.75	.28	324	2632	CODE 02
12/01/77		13:08	2.72	.32	325	2633	CODE 24
12/01/77		13:09	.68	.20	326	2634	CODE 24
12/01/77		13:11	1.80	1.05	327	2635	CODE 12
12/01/77		13:13	.95	.23	328	2636	CODE 12
12/01/77		13:16	2.77	.28	329	2637	CODE 24
12/01/77		13:23	6.72	.20	330	2638	CODE 24
12/01/77		13:31	7.80	.32	331	2639	CODE 24
12/01/77		13:32	.68	.37	332	2640	CODE 02
12/01/77		13:34	1.63	.32	333	2641	CODE 12
12/01/77		13:36	1.68	.33	334	2642	CODE 18
12/01/77		13:38	1.67	.28	335	2643	CODE 14
12/01/77		13:39	.72	.20	336	2644	CODE 02
12/01/77		13:40	.80	.25	337	2645	CODE 24
12/01/77		13:41	.75	.63	338	2646	CODE 24
12/01/77		13:42	.37	.20	339	2647	CODE 02
12/01/77		13:43	.80	2.92	340	2648	CODE 02
12/01/77		13:48	2.08	.33	341	2649	CODE 24
12/01/77		13:53	4.67	.40	342	2650	CODE 24
12/01/77		14:24	15.60	.25	343	2651	CODE 24
12/01/77		14:29	4.75	.33	344	2652	CODE 12
12/01/77		14:34	4.67	.33	345	2653	CODE 24
12/01/77		14:38	3.67	.37	346	2654	CODE 24
12/01/77		14:52	13.63	1.05	347	2655	CODE 18
12/01/77		14:54	.95	.93	348	2656	CODE 11
12/01/77		14:55	.07	.43	349	2657	CODE 11
12/01/77		14:58	2.57	.28	350	2658	CODE 12

MODULE 6 = FUZE ASSEMBLY STATION 6 (CONTD) STATION 306 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/01/77		14:59	.72	.43	351	2659	CODF 02
12/01/77		15:01	1.57	.28	352	2660	CODF 24
12/01/77		15:03	1.72	.75	353	2661	CODF 12
12/01/77		15:04	.25	.88	354	2662	CODF 12
12/01/77		15:22	2.12	.20	355	2663	CODF 24
12/01/77		15:24	1.80	.25	356	2664	CODF 24
12/01/77		15:25	.75	.25	357	2665	CODF 24
12/01/77		15:26	.75	.28	358	2666	CODF 02
12/01/77		15:27	.72	.40	359	2667	CODF 24
12/01/77		15:28	.60	.25	360	2668	CODF 24
12/01/77		15:29	.75	.83	361	2669	CODF 02
12/01/77		15:31	1.17	.33	362	2670	CODF 24
12/01/77		15:33	1.67	.43	363	2671	CODF 12
12/01/77		15:40	6.57	.28	364	2672	CODF 24
12/01/77		15:43	2.72	1.93	365	2673	CODF 12
END OF SHIFT AT 15:50							
08:00							
12/02/77	08:09		14.07	.25	366	2674	CODF 12
12/02/77	08:10		.75	.27	367	2675	CODF 24
12/02/77	08:13		2.73	.25	368	2676	CODF 24
12/02/77	08:21		7.75	.28	369	2677	CODF 24
12/02/77	08:24		2.72	.22	370	2678	CODF 24
12/02/77	08:29		4.78	2.72	371	2679	CODF 12
12/02/77	08:36		4.28	.33	372	2680	CODF 24
12/02/77	08:37		.67	.25	373	2681	CODF 24
12/02/77	08:38		.75	.27	374	2682	CODF 24
12/02/77	08:39		.73	.20	375	2683	CODF 02
12/02/77	08:45		5.80	.25	376	2684	CODF 24
12/02/77	08:46		.75	.28	377	2685	CODF 24
12/02/77	08:49		2.72	.58	378	2686	CODF 24
12/02/77	08:50		.42	.25	379	2687	CODF 24
12/02/77	08:51		.75	.40	380	2688	CODF 12
12/02/77	08:52		.60	.43	381	2689	CODF 24
12/02/77	09:00		7.57	3.25	382	2690	CODF 25
12/02/77	09:08		4.75	.33	383	2691	CODF 24
12/02/77	09:10		1.67	.40	384	2692	CODF 1A
12/02/77	09:13		2.60	.25	385	2693	CODF 24
12/02/77	09:22		8.75	.28	386	2694	CODF 24
12/02/77	09:23		.72	.25	387	2695	CODF 24

MODULF 6 = FUTE ASSEMBLY STATION 6 (CONTD) STATION 306 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/02/77	09:24	.75	.25	388	2696	CODE 02	
12/02/77	09:25	.75	.5A	389	2697	CODE 24	
12/02/77	09:26	.42	.25	390	2698	CODE 02	
12/02/77	09:27	.75	.2A	391	2699	CODE 24	
12/02/77	09:29	1.72	.27	392	2700	CODE 24	
12/02/77	09:30	.73	.2A	393	2701	CODE 24	
12/02/77	09:32	1.72	.33	394	2702	CODE 24	
12/02/77	09:33	.67	.2A	395	2703	CODE 24	
12/02/77	09:37	3.72	.83	396	2704	CODE 25	
12/02/77	09:40	2.17	.40	397	2705	CODE 18	
12/02/77	09:42	1.60	.25	398	2706	CODE 24	
12/02/77	09:46	3.75	.25	399	2707	CODE 24	
12/02/77	09:47	.75	1.63	400	2708	CODE 11	
12/02/77	09:49	.37	.40	401	2709	CODE 18	
12/02/77	09:56	6.60	1.25	402	2710	CODE 02	
12/02/77	10:18	5.75	.2A	403	2711	CODE 24	
12/02/77	10:23	4.72	.25	404	2712	CODE 24	
12/02/77	10:25	1.75	.5A	405	2713	CODE 12	
12/02/77	10:30	4.42	.2A	406	2714	CODE 24	
12/02/77	10:34	3.72	.83	407	2715	CODE 12	
12/02/77	10:40	5.17	.5A	408	2716	CODE 25	
12/02/77	10:41	.42	.53	409	2717	CODE 02	
12/02/77	10:42	.47	.2A	410	2718	CODE 24	
12/02/77	10:43	.72	.40	411	2719	CODE 02	
12/02/77	10:46	2.60	.25	412	2720	CODE 24	
12/02/77	10:47	.75	.2A	413	2721	CODE 24	
12/02/77	10:48	.72	.25	414	2722	CODE 24	
12/02/77	10:56	7.75	.2A	415	2723	CODE 24	
12/02/77	11:04	7.72	.33	416	2724	CODE 24	
12/02/77	11:08	3.67	.5A	417	2725	CODE 18	
12/02/77	11:14	5.42	.2A	418	2726	CODE 24	
12/02/77	11:15	.72	.33	419	2727	CODE 24	
12/02/77	11:18	2.67	.2A	420	2728	CODE 24	
12/02/77	11:20	1.72	.25	421	2729	CODE 24	
12/02/77	11:21	.75	.2A	422	2730	CODE 12	
12/02/77	11:23	1.72	.83	423	2731	CODE 12	
12/02/77	11:26	2.17	.63	424	2732	CODE 24	
12/02/77	11:28	1.37	.33	425	2733	CODE 24	
12/02/77	11:29	.67	.2A	426	2734	CODE 24	
12/02/77	11:30	.72	2.33	427	2735	CODE 11	

MODULE 6 = FUZE ASSEMBLY STATION 6 (CONTD) STATION 306 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/02/77		11:40	7.67	.83	428	2736	CODF 12
12/02/77		11:46	5.17	.33	429	2737	CODF 24
12/02/77		11:53	6.67	.33	430	2738	CODF 24
12/02/77		12:34	10.67	.25	431	2739	CODF 24
12/02/77		12:39	4.75	.25	432	2740	CODF 24
12/02/77		12:41	1.75	.20	433	2741	CODF 24
12/02/77		12:42	.80	.25	434	2742	CODF 02
12/02/77		12:47	4.75	.25	435	2743	CODF 24
12/02/77		12:48	.75	.58	436	2744	CODF 02
12/02/77		12:49	.42	.75	437	2745	CODF 18
12/02/77		12:54	4.25	.42	438	2746	CODF 12
12/02/77		13:00	5.58	.33	439	2747	CODF 24
12/02/77		13:09	8.67	.68	440	2748	CODF 12
12/02/77		13:10	.32	1.58	441	2749	CODF 12
12/02/77		13:12	.42	.25	442	2750	CODF 24
12/02/77		13:14	1.75	.28	443	2751	CODF 24
12/02/77		13:16	1.72	.25	444	2752	CODF 24
12/02/77		13:18	1.75	.40	445	2753	CODF 12
12/02/77		13:22	3.60	.58	446	2754	CODF 18
12/02/77		13:30	7.42	.25	447	2755	CODF 24
12/02/77		13:34	3.75	1.33	448	2756	TIGHTEN CONV RLFT
12/02/77		13:38	2.67	.28	449	2757	CODF 24
12/02/77		13:39	.72	.33	450	2758	CODF 12
12/02/77		13:44	4.67	.28	451	2759	CODF 18
12/02/77		13:50	5.72	0.00	452	2760	CODF 24
12/02/77		14:20	15.00	.63	453	2761	CODF 12
12/02/77		14:22	1.37	.25	454	2762	CODF 24
12/02/77		14:23	.75	2.05	455	2763	CODF 12
12/02/77		14:26	.95	.25	456	2764	CODF 24
12/02/77		14:30	3.75	.40	457	2765	CODF 24
12/02/77		14:32	1.60	.25	458	2766	CODF 24
12/02/77		14:34	1.75	.33	459	2767	CODF 24
12/02/77		14:43	8.67	.83	460	2768	CODF 27
12/02/77		14:47	3.17	1.00	461	2769	CODF 12
12/02/77		14:48	0.00	.33	462	2770	CODF 12
12/02/77							

END OF SHIFT AT 14:50

MODULE 7 = FUZE ASSEMBLY STATION R				STATION 308 AT KAAP			
DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/16/77	08:15	08:27	2.00	9.23	1	2771	CODF 11
11/16/77		08:39	2.77	.40	2	2772	CODF 12
11/16/77		08:41	1.60	.40	3	2773	CODF 02
11/16/77		08:43	1.60	.63	4	2774	CODF 25
11/16/77		08:46	2.37	.42	5	2775	CODF 02
11/16/77		08:50	3.58	.50	6	2776	CODF 12
11/16/77		08:52	1.50	.50	7	2777	CODF 12
11/16/77		08:58	5.50	.70	8	2778	CODF 12
11/16/77		09:09	10.30	.63	9	2779	CODF 12
11/16/77		09:25	15.37	.22	10	2780	CODF 02
11/16/77		09:49	23.40	.20	11	2781	CODF 12
11/16/77		10:21	14.80	.40	12	2782	CODF 18
11/16/77		10:23	1.60	.42	13	2783	CODF 12
11/16/77		10:50	5.38	.35	14	2784	CODF 02
11/16/77		10:56	5.65	.50	15	2785	CODF 11
11/16/77		11:01	4.50	.87	16	2786	CODF 14
11/16/77		11:04	2.13	.27	17	2787	CODF 06
11/16/77		11:07	2.73	.92	18	2788	CODF 03
11/16/77		11:13	5.08	1.27	19	2789	CODF 12
11/16/77		11:15	.73	.80	20	2790	CODF 12
11/16/77		11:22	6.20	.22	21	2791	CODF 12
11/16/77		11:28	5.78	.80	22	2792	CODF 02
11/16/77		11:34	5.20	1.00	23	2793	CODF 02
11/16/77		11:37	2.00	.37	24	2794	CODF 12
11/16/77		11:43	5.63	.82	25	2795	CODF 02
11/16/77		11:45	1.18	1.93	26	2796	CODF 02
11/16/77		11:47	.07	1.20	27	2797	MAIN DRIVE SHAFT JAM
11/16/77		11:49	.80	.53	28	2798	CODF 12
11/16/77		11:51	1.47	.55	29	2799	CODF 12
11/16/77		12:30	8.45	1.02	30	2800	CODF 12
11/16/77		12:37	1.70	.47	31	2801	CODF 12
11/16/77		12:38	.53	5.25	32	2802	CODF 02
11/16/77		12:46	2.75	.68	33	2803	CODF 12
11/16/77		12:47	.32	4.52	34	2804	CODF 12
11/16/77		12:55	3.48	.25	35	2805	CODF 24
11/16/77		12:57	1.75	3.80	36	2806	CODF 21
11/16/77		13:04	3.20	4.08	37	2807	CODF 21
11/16/77		13:19	10.92	10.20	38	2808	CODF 21
11/16/77		13:34	4.80	.75	39	2809	CODF 18

MODULE 7 = FUZE ASSEMBLY STATION 8 (CONTD) STATION 308 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/16/77	13:35		.25	2.43	40	2810	CODF 21
11/16/77	13:40		2.57	11.83	41	2811	CODF 11
11/16/77	13:53		1.17	1.22	42	2812	CODF 21
11/16/77	14:16		21.78	1.00	43	2813	CODF 21
11/16/77	14:52		11.57	.25	44	2814	CODF 24
11/16/77	14:53		.75	.42	45	2815	CODF 18
11/16/77	14:58		2.08	2.53	46	2816	CODF 11
11/16/77	15:03		2.47	.25	47	2817	CODF 18
11/16/77	15:04		.75	.58	48	2818	CODF 12
11/16/77	15:08		3.42	1.98	49	2819	CODF 12
11/16/77	15:14		4.02	.42	50	2820	CODF 18
11/16/77	15:16		1.58	.53	51	2821	CODF 12
11/16/77	15:21		4.47	.22	52	2822	CODF 18
11/16/77	15:27		5.78	.22	53	2823	CODF 14
11/16/77	15:28		.78	.42	54	2824	CODF 12
11/16/77	15:39		9.58	.52	55	2825	CODF 02
11/16/77	15:45		5.12	.25	56	2826	CODF 24
11/16/77			END OF SHIFT AT 15:49				
11/17/77	08:00						
11/17/77	08:02		5.75	8.88	57	2827	CODF 20
11/17/77	08:16		5.12	4.58	58	2828	CODF 11
11/17/77	08:22		1.42	.93	59	2829	CODF 01
11/17/77	08:24		1.07	1.25	60	2830	CODF 11
11/17/77	08:28		2.75	.32	61	2831	CODF 14
11/17/77	08:29		.68	1.52	62	2832	CODF 11
11/17/77	08:32		1.48	.68	63	2833	CODF 18
11/17/77	08:33		.32	.22	64	2834	CODF 24
11/17/77	08:36		2.78	.32	65	2835	CODF 18
11/17/77	08:40		3.68	2.32	66	2836	CODF 11
11/17/77	08:43		.68	.40	67	2837	CODF 11
11/17/77	08:47		3.60	5.67	68	2838	CODF 11
11/17/77	08:55		2.33	.93	69	2839	CODF 12
11/17/77	08:57		1.07	.25	70	2840	CODF 24
11/17/77	09:00		2.75	.22	71	2841	CODF 24
11/17/77	09:03		2.78	.20	72	2842	CODF 24
11/17/77	09:04		.80	.20	73	2843	CODF 24
11/17/77	09:06		1.80	.28	74	2844	CODF 24
11/17/77	09:13		.72	3.25	75	2845	CODF 29
11/17/77	09:17		.75	.77	76	2846	CODF 12

MODULE 7 = FUZE ASSEMBLY STATION 8 (CDNTD) STATION 308 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/17/77	09:47	09:47	29.23	.45	77	2847	CDDF 18
11/17/77	09:48	09:48	.55	1.31	78	2848	CDDF 11
11/17/77	09:50	09:50	.67	.28	79	2849	CDDF 18
11/17/77	09:52	09:52	1.72	.35	80	2850	CDDF 03
11/17/77	09:53	09:53	.65	.48	81	2851	CDDF 03
11/17/77	10:16	10:16	7.52	.82	82	2852	CDDF 03
11/17/77	10:22	10:22	5.18	.68	83	2853	CDDF 03
11/17/77	10:31	10:31	8.32	2.05	84	2854	CDDF 03
11/17/77	10:34	10:34	.95	1.42	85	2855	CDDF 11
11/17/77	10:36	10:36	.58	1.88	86	2856	CDDF 29
11/17/77	10:38	10:38	.12	9.57	87	2857	CDDF 29
11/17/77	10:48	10:48	.43	.50	88	2858	CDDF 06
11/17/77	10:56	10:56	7.50	2.88	89	2859	CDDF 12
11/17/77	11:00	11:00	1.12	.32	90	2860	CDDF 03
11/17/77	11:05	11:05	3.55	.82	91	2861	CDDF 12
11/17/77	11:07	11:07	3.68	.32	92	2862	CDDF 12
11/17/77	11:11	11:11	3.67	.33	93	2863	CDDF 02
11/17/77	11:15	11:15	3.67	.25	94	2864	CDDF 03
11/17/77	11:16	11:16	.75	1.02	95	2865	CDDF 12
11/17/77	11:18	11:18	.98	1.40	96	2866	CDDF 12
11/17/77	11:20	11:20	.60	1.27	97	2867	CDDF 02
11/17/77	11:22	11:22	.73	3.97	98	2868	CDDF 02
11/17/77	11:29	11:29	2.32	1.37	99	2869	CDDF 12
11/17/77	11:34	11:34	3.63	.43	100	2870	CDDF 18
11/17/77	11:37	11:37	2.57	.35	101	2871	CDDF 18
11/17/77	11:38	11:38	.65	1.12	102	2872	CDDF 11
11/17/77	11:42	11:42	2.88	.22	103	2873	CDDF 03
11/17/77	11:43	11:43	.78	1.25	104	2874	CDDF 11
11/17/77	11:45	11:45	.75	.58	105	2875	CDDF 11
11/17/77	11:53	11:53	7.42	.22	106	2876	CDDF 02
11/17/77	12:30	12:30	6.78	.33	107	2877	CDDF 12
11/17/77	12:32	12:32	1.67	.28	108	2878	CDDF 12
11/17/77	12:33	12:33	.72	1.15	109	2879	CDDF 12
11/17/77	12:36	12:36	1.85	1.53	110	2880	CDDF 12
11/17/77	12:58	12:58	19.45	1.75	111	2881	CDDF 16
11/17/77	13:04	13:04	4.25	.22	112	2882	CDDF 24
11/17/77	13:08	13:08	3.78	.28	113	2883	CDDF 12
11/17/77	13:18	13:18	9.72	.33	114	2884	CDDF 03
11/17/77	13:23	13:23	4.67	.25	115	2885	CDDF 03
11/17/77	13:30	13:30	6.75	.43	116	2886	CDDF 02

KAAP

MODULE 7 = FUZE ASSEMBLY STATION 8 (CONTD) STATION 308 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
11/17/77	13:40	9:57	.77	117	2887		CODE 11
11/17/77	13:43	2:23	.75	118	2888		CODE 27
11/17/77	13:44	.25	.58	119	2889		CODE 1A
11/17/77	13:47	2:42	.85	120	2890		CODE 06
11/17/77	14:18	15:15	.33	121	2891		CODE 24
11/17/77	14:31	12:67	.97	122	2892		CODE 12
11/17/77	14:40	8:03	1:25	123	2893		CODE 12
11/17/77	14:49	7:75	.42	124	2894		CODE 15
11/17/77	14:53	3:58	1:22	125	2895		CODE 12
11/17/77	14:56	1:78	.38	126	2896		CODE 12
11/17/77	15:03	6:62	1:40	127	2897		CODE 12
11/17/77	15:14	9:20	.33	128	2898		CODE 02
11/17/77	15:21	6:67	.25	129	2899		CODE 03
11/17/77	15:22	.75	.28	130	2900		CODE 03
11/17/77	15:32	9:72	3:50	131	2901		CODE 25
END OF SHIFT AT 15:52							
11/18/77	08:00						
11/18/77	08:05	21:17	.58	132	2902		CODE 12
11/18/77	08:13	7:42	.53	133	2903		CODE 03
11/18/77	08:21	6:58	.78	134	2904		CODE 11
11/18/77	08:23	1:22	5:62	135	2905		CODE 29
11/18/77	08:30	1:38	1:28	136	2906		CODE 12
11/18/77	08:32	.72	3:42	137	2907		CODE 29
11/18/77	08:41	5:58	.77	138	2908		CODE 12
11/18/77	08:43	1:23	.43	139	2909		CODE 15
11/18/77	08:44	.57	.32	140	2910		CODE 03
11/18/77	09:06	17:02	.58	141	2911		CODE 12
11/18/77	09:22	15:42	.40	142	2912		CODE 12
11/18/77	09:49	24:17	.67	143	2913		CODE 27
11/18/77	09:50	.33	3:57	144	2914		CODE 12
11/18/77	10:22	13:43	3:55	145	2915		SET TIMING ON MACHINE
11/18/77	10:26	.45	5:68	146	2916		CODE 11
11/18/77	10:37	5:32	.37	147	2917		CODE 02
11/18/77	10:38	.63	.73	148	2918		CODE 03
11/18/77	10:44	5:27	.52	149	2919		CODE 21
11/18/77	10:59	14:48	.43	150	2920		CODE 03
11/18/77	11:15	15:57	.52	151	2921		CODE 03
11/18/77	11:31	15:48	.52	152	2922		CODE 03
11/18/77	11:36	4:48	.53	153	2923		CODE 02

MODULE 7 = FUZE ASSEMBLY STATION 8 (CONTD) STATION 308 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/18/77		11:38	1.47	.52	154	2924	CODE 03
11/18/77		11:45	6.48	.52	155	2925	CODE 03
11/18/77		11:46	.48	.73	156	2926	CODE 02
11/18/77		11:56	9.27	.52	157	2927	CODE 03
11/18/77		12:47	18.08	.75	158	2928	CODE 02
11/18/77		12:49	1.25	1.68	159	2929	CODE 02
11/18/77		12:54	3.32	1.27	160	2930	CODE 12
11/18/77		13:04	8.73	.37	161	2931	CODE 03
11/18/77		13:14	9.63	2.20	162	2932	CODE 12
11/18/77		13:17	.80	.63	163	2933	CODE 12
11/18/77		13:24	6.37	.83	164	2934	CODE 02
11/18/77		13:37	12.17	.33	165	2935	CODE 15
11/18/77			END OF SHIFT AT 14:00				

MODULE 8 = FUZE ASSEMBLY STATION 9			STATION 309 AT KAAP				
OATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
11/15/77	08:00	08:02	2.00	1.13	1	2936	COOF 12
11/15/77		08:07	3.87	.43	2	2937	COOF 12
11/15/77		08:09	1.57	.50	3	2938	COOF 24
11/15/77		08:11	1.50	1.28	4	2939	COOF 02
11/15/77		08:13	.72	4.20	5	2940	CODE 12
11/15/77		08:19	1.80	3.28	6	2941	COOF 12
11/15/77		08:26	3.72	1.33	7	2942	COOF 12
11/15/77		08:29	1.67	.37	8	2943	COOF 12
11/15/77		08:31	1.63	1.10	9	2944	COOE 18
11/15/77		08:44	11.90	3.62	10	2945	COOE 11
11/15/77		08:54	6.38	1.62	11	2946	COOF 11
11/15/77		09:07	11.38	1.50	12	2947	COOE 18
11/15/77		09:12	3.50	8.75	13	2948	ADJUST MACHINE TIMING
11/15/77		09:28	7.25	2.45	14	2949	COOF 11
11/15/77		09:31	.55	3.15	15	2950	COOE 11
11/15/77		09:36	1.85	.27	16	2951	COOF 02
11/15/77		09:38	1.73	.37	17	2952	COOF 24
11/15/77		09:50	11.63	1.10	18	2953	COOE 18
11/15/77		09:58	6.90	.32	19	2954	COOF 02
11/15/77		10:15	1.68	.25	20	2955	COOF 02
11/15/77		11:08	52.50	.65	21	2956	COOF 18
11/15/77		11:13	4.35	.40	22	2957	COOE 12
11/15/77		11:21	7.60	.22	23	2958	COOE 12
11/15/77		11:26	4.78	.37	24	2959	COOF 18
11/15/77		11:31	4.63	.33	25	2960	COOE 12
11/15/77		11:33	1.67	.20	26	2961	COOE 02
11/15/77		11:37	3.80	.27	27	2962	COOF 12
11/15/77		11:39	1.73	.23	28	2963	COOF 12
11/15/77		11:47	7.77	.33	29	2964	COOF 12
11/15/77		11:52	4.67	.33	30	2965	COOE 12
11/15/77		12:35	12.67	.72	31	2966	COOF 12
11/15/77		12:39	3.28	.62	32	2967	COOF 12
11/15/77		12:46	6.38	.83	33	2968	COOF 12
11/15/77		12:48	1.17	.22	34	2969	COOF 02
11/15/77		12:49	.78	1.67	35	2970	COOF 02
11/15/77		12:54	3.33	.37	36	2971	COOF 12
11/15/77		13:05	10.63	.75	37	2972	COOF 12
11/15/77		13:07	1.25	1.25	38	2973	COOF 12
11/15/77		13:09	.75	1.00	39	2974	COOE 02

MODULE 8 = FUZE ASSEMBLY STATION 9 (CONTD) STATION 309 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/15/77		13:10	0.00	.52	40	2975	CODE 02
11/15/77		13:12	1.48	2.57	41	2976	CODE 25
11/15/77		13:17	2.43	.20	42	2977	CODE 12
11/15/77		13:19	1.80	.45	43	2978	CODE 18
11/15/77		13:26	6.55	1.28	44	2979	CODE 12
11/15/77		13:33	5.72	.28	45	2980	CODE 02
11/15/77		13:37	3.72	.20	46	2981	CODE 02
11/15/77		13:38	.80	.40	47	2982	CODE 12
11/15/77		13:44	5.60	.40	48	2983	CODE 12
11/15/77		13:48	3.60	.97	49	2984	CODE 18
11/15/77		13:57	8.03	.43	50	2985	CODE 02
11/15/77		14:18	5.57	.23	51	2986	CODE 12
11/15/77		14:21	2.77	.20	52	2987	CODE 02
11/15/77		14:28	6.80	.23	53	2988	CODE 02
11/15/77		14:30	1.77	.83	54	2989	CODE 12
11/15/77		14:32	1.17	.75	55	2990	CODE 25
11/15/77		14:38	5.25	.70	56	2991	CODE 12
11/15/77		14:42	3.30	.50	57	2992	CODE 12
11/15/77		14:43	.50	.47	58	2993	CODE 25
11/15/77		14:46	2.53	.42	59	2994	CODE 24
11/15/77		14:52	5.58	.52	60	2995	CODE 18
11/15/77		14:54	1.48	.97	61	2996	CODE 18
11/15/77		15:07	12.03	.30	62	2997	CODE 27
11/15/77		15:10	2.70	.33	63	2998	CODE 02
11/15/77		15:11	.67	.28	64	2999	CODE 12
11/15/77		15:16	4.72	.77	65	3000	CODE 12
11/15/77		15:17	.23	.43	66	3001	CODE 02
11/15/77		15:21	3.57	.38	67	3002	CODE 02
11/15/77		15:25	3.62	.37	68	3003	CODE 27
11/15/77		15:29	3.63	.33	69	3004	CODE 27
11/15/77		15:31	1.67	.32	70	3005	CODE 14
11/15/77		15:36	4.68	.20	71	3006	CODE 27
11/15/77		15:41	4.80	.33	72	3007	CODE 27
11/15/77		END OF SHIFT AT 15:45					
11/16/77	08:40	08:42	5.67	.43	73	3008	CODE 18
11/16/77		08:50	7.57	.33	74	3009	CODE 16
11/16/77		08:50	.33	.20	75	3010	CODE 12
11/16/77		08:52	1.80	.43	76	3011	CODE 12

MODULE 8 = FUZE ASSEMBLY STATION 9 (CONTD) STATION 309 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/16/77	08:54	1:57	.25	77	3012		CODF 12
11/16/77	08:56	1:75	.33	78	3013		CODF 12
11/16/77	09:13	1:87	4.05	79	3014		CODF 21
11/16/77	09:18	.95	2.20	80	3015		CODF 21
11/16/77	09:22	1:80	3.50	81	3016		CODF 18
11/16/77	09:26	.50	.20	82	3017		CODF 12
11/16/77	09:29	2:80	.25	83	3018		CODF 12
11/16/77	09:31	1:75	.63	84	3019		CODF 12
11/16/77	09:36	4:37	.25	85	3020		CODF 12
11/16/77	09:41	4:75	.40	86	3021		CODF 18
11/16/77	09:43	1:60	.25	87	3022		CODF 12
11/16/77	09:47	3:75	.25	88	3023		CODF 12
11/16/77	09:52	4:75	.28	89	3024		CODF 12
11/16/77	10:20	12:72	.20	90	3025		CODF 12
11/16/77	10:23	2:80	.25	91	3026		CODF 12
11/16/77	10:26	2:75	.20	92	3027		CODF 13
11/16/77	10:27	.80	1.80	93	3028		CODF 11
11/16/77	10:32	3:20	.33	94	3029		CODF 17
11/16/77	10:33	.67	.50	95	3030		CODF 24
11/16/77	10:37	3:50	.28	96	3031		CODF 12
11/16/77	10:38	.72	.50	97	3032		CODF 12
11/16/77	10:39	.50	.63	98	3033		CODF 18
11/16/77	11:08	.97	5.68	99	3034		CODF 12
11/16/77	11:19	5:32	.28	100	3035		CODF 12
11/16/77	11:21	1:72	.33	101	3036		CODF 17
11/16/77	11:22	.67	.28	102	3037		CODF 12
11/16/77	11:26	3:72	.33	103	3038		CODF 12
11/16/77	11:27	.67	.40	104	3039		CODF 12
11/16/77	11:33	5:60	.28	105	3040		CODF 12
11/16/77	11:34	.72	.88	106	3041		CODF 24
11/16/77	11:36	1:12	.33	107	3042		CODF 12
11/16/77	11:38	1:67	.25	108	3043		CODF 12
11/16/77	11:40	1:75	.28	109	3044		CODF 27
11/16/77	11:42	1:72	.25	110	3045		CODF 12
11/16/77	11:43	.75	.58	111	3046		CODF 12
11/16/77	11:44	.42	.40	112	3047		CODF 03
11/16/77	11:47	1:55	.20	113	3048		CODF 12
11/16/77	11:48	.80	.33	114	3049		CODF 12
11/16/77	11:49	.67	.40	115	3050		CODF 12
11/16/77	11:50	.60	.25	116	3051		CODF 24

MODULE 8 = FU7E ASSEMBLY STATION 9 (CONTO) STATION 309 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/16/77	11:52	11:52	1.75	.20	117	3052	COOE 12
11/16/77	11:53	11:53	.80	.33	118	3053	COOF 12
11/16/77	11:55	11:55	1.67	.28	119	3054	COOF 24
11/16/77	11:56	11:56	.72	.28	120	3055	COOF 12
11/16/77	12:33	12:33	6.72	.28	121	3056	COOF 24
11/16/77	12:34	12:34	.72	.40	122	3057	COOF 12
11/16/77	12:36	12:36	1.60	.50	123	3058	COOF 12
11/16/77	12:38	12:38	1.50	.43	124	3059	COOE 12
11/16/77	12:40	12:40	1.57	2.00	125	3060	COOF 12
11/16/77	12:43	12:43	1.00	1.80	126	3061	COOF 12
11/16/77	12:46	12:46	1.20	.83	127	3062	COOF 24
11/16/77	12:51	12:51	4.17	.68	128	3063	COOF 12
11/16/77	12:52	12:52	.32	2.50	129	3064	COOE 12
11/16/77	13:09	13:09	1.10	.40	130	3065	CODE 02
11/16/77	13:10	13:10	.60	.33	131	3066	COOE 15
11/16/77	13:11	13:11	.67	.28	132	3067	COOF 12
11/16/77	13:12	13:12	.72	1.58	133	3068	COOE 12
11/16/77	13:15	13:15	1.42	1.80	134	3069	COOE 12
11/16/77	13:17	13:17	.20	.75	135	3070	COOE 12
11/16/77	13:21	13:21	3.25	3.75	136	3071	COOF 21
11/16/77	13:32	13:32	7.25	.43	137	3072	COOE 12
11/16/77	13:35	13:35	2.57	.53	138	3073	COOE 12
11/16/77	13:38	13:38	2.47	.28	139	3074	COOE 24
11/16/77	13:40	13:40	1.72	.20	140	3075	COOE 12
11/16/77	13:45	13:45	4.80	.28	141	3076	COOE 12
11/16/77	14:25	14:25	24.72	1.20	142	3077	COOE 12
11/16/77	14:27	14:27	.80	.20	143	3078	COOE 12
11/16/77	14:28	14:28	.80	1.10	144	3079	COOF 12
11/16/77	14:36	14:36	6.90	.43	145	3080	COOF 27
11/16/77	14:46	14:46	9.57	.93	146	3081	CODE 28
11/16/77	14:55	14:55	8.07	.40	147	3082	COOF 24
11/16/77	14:57	14:57	1.60	.28	148	3083	COOF 12
11/16/77	14:58	14:58	.72	.25	149	3084	COOF 24
11/16/77	15:00	15:00	1.75	.33	150	3085	COOF 12
11/16/77	15:07	15:07	6.67	.28	151	3086	COOF 24
11/16/77	15:14	15:14	6.72	.28	152	3087	CODE 12
11/16/77	15:28	15:28	13.72	.25	153	3088	COOF 27
11/16/77	15:37	15:37	8.75	.43	154	3089	COOF 27
11/16/77	15:41	15:41	3.57	.33	155	3090	COOF 24
11/16/77	15:44	15:44	2.67	.40	156	3091	COOF 18

MODULE 8 = FUZE ASSEMBLY STATION 9 (CONTD) STATION 309 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/16/77				END OF SHIFT AT 15:53			
11/17/77	08:02	08:06	10.72	.75	157	3092	COOF 05
11/17/77		08:08	1.25	.25	158	3093	COOF 12
11/17/77		08:09	.75	4.40	159	3094	COOF 29
11/17/77		08:29	12.35	.28	160	3095	COOF 24
11/17/77		08:30	.72	.88	161	3096	COOF 12
11/17/77		08:37	6.12	.25	162	3097	COOF 24
11/17/77		08:38	.75	.75	163	3098	COOF 11
11/17/77		08:45	6.25	.25	164	3099	COOF 24
11/17/77		08:46	.75	.40	165	3100	COOF 12
11/17/77		08:54	7.60	.88	166	3101	COOF 21
11/17/77		08:57	2.12	.28	167	3102	COOF 24
11/17/77		09:03	5.72	1.33	168	3103	COOF 18
11/17/77		09:08	3.67	.25	169	3104	COOF 18
11/17/77		09:12	3.75	7.83	170	3105	COOF 11
11/17/77		09:20	.17	1.68	171	3106	COOF 11
11/17/77		09:24	2.32	.20	172	3107	COOF 12
11/17/77		09:26	1.80	.43	173	3108	COOF 11
11/17/77		09:28	1.57	.20	174	3109	COOF 12
11/17/77		09:36	7.40	.53	175	3110	COOF 24
11/17/77		09:40	3.47	.20	176	3111	COOF 12
11/17/77		09:44	3.80	.20	177	3112	COOF 12
11/17/77		09:53	8.80	.40	178	3113	COOF 27
11/17/77		09:56	2.60	.25	179	3114	COOF 12
11/17/77		09:57	.75	.63	180	3115	COOF 03
11/17/77		10:19	3.83	.28	181	3116	COOF 18
11/17/77		10:25	5.72	.25	182	3117	COOF 12
11/17/77		10:26	.75	.50	183	3118	COOF 25
11/17/77		10:34	3.70	1.58	184	3119	COOF 24
11/17/77		10:38	2.42	.28	185	3120	COOF 27
11/17/77		10:39	.72	4.53	186	3121	COOF 28
11/17/77		10:44	.47	6.63	187	3122	COOF 11
11/17/77		10:52	1.37	.33	188	3123	COOF 12
11/17/77		11:02	9.67	.63	189	3124	COOF 28
11/17/77		11:05	2.37	.20	190	3125	COOF 24
11/17/77		11:07	1.80	.50	191	3126	COOF 12
11/17/77		11:13	5.50	1.88	192	3127	COOF 12
11/17/77		11:15	.12	.40	193	3128	COOF 12

MODULE 8 = FUZF ASSEMBLY STATION 9 (CONTD) STATION 309 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF RPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/17/77		11:24	8.60	.33	194	3129	CODE 12
11/17/77		11:26	1.67	.28	195	3130	CODE 05
11/17/77		11:38	11.72	.58	196	3131	CODE 05
11/17/77		11:42	3.42	.75	197	3132	CODE 05
11/17/77		11:45	2.25	.50	198	3133	CODE 05
11/17/77		11:46	.50	.43	199	3134	CODE 29
11/17/77		11:54	5.57	.33	200	3135	CODE 24
11/17/77		12:31	6.67	.43	201	3136	CODE 27
11/17/77		12:37	5.57	.25	202	3137	CODE 24
11/17/77		12:38	.75	.40	203	3138	CODE 12
11/17/77		12:46	7.60	.40	204	3139	CODE 11
11/17/77		12:48	1.60	.28	205	3140	CODE 24
11/17/77		12:51	2.72	.25	206	3141	CODE 27
11/17/77							
END OF SHIFT AT 17:22							
11/18/77	08:00						
11/18/77		08:12	4.75	.50	207	3142	CODE 05
11/18/77		08:22	9.50	.43	208	3143	CODE 25
11/18/77		08:27	4.57	.28	209	3144	CODE 12
11/18/77		08:29	1.72	.33	210	3145	CODE 12
11/18/77		08:38	8.67	.25	211	3146	CODE 12
11/18/77		08:39	.75	.40	212	3147	CODE 02
11/18/77		08:44	4.60	.40	213	3148	CODE 02
11/18/77		09:17	11.55	.58	214	3149	CODE 05
11/18/77		09:19	1.42	.20	215	3150	CODE 12
11/18/77		09:22	2.80	.93	216	3151	CODE 24
11/18/77		09:29	5.67	.25	217	3152	CODE 12
11/18/77		09:32	2.75	.33	218	3153	CODE 12
11/18/77		09:33	.67	.50	219	3154	CODE 29
11/18/77		09:34	.50	3.80	220	3155	CODE 29
11/18/77		09:42	4.20	.20	221	3156	CODE 24
11/18/77		10:26	28.80	.25	222	3157	CODE 24
11/18/77		10:27	.75	2.20	223	3158	CODE 12
11/18/77		11:13	3.68	.20	224	3159	CODE 24
11/18/77		11:14	.80	.28	225	3160	CODE 12
11/18/77		11:19	4.72	.20	226	3161	CODE 12
11/18/77		11:23	3.80	.25	227	3162	CODE 12
11/18/77		11:32	8.75	.20	228	3163	CODE 12
11/18/77		11:34	1.80	.25	229	3164	CODE 02
11/18/77		11:47	12.75	.28	230	3165	CODE 02

MODULE 8 = FUZE ASSEMBLY STATION 9 (CONTD) STATION 309 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/18/77	11:54	6.72	.33		231	3166	CODE 24
11/18/77	12:42	17.67	.20		232	3167	CODE 12
11/18/77	12:47	4.80	.25		233	3168	CODE 12
11/18/77	12:55	7.75	.28		234	3169	CODE 27
11/18/77	13:00	4.72	.25		235	3170	CODE 12
11/18/77	13:09	8.75	.33		236	3171	CODE 27
11/18/77	13:10	.67	.25		237	3172	CODE 18
11/18/77	13:18	7.75	.25		238	3173	CODE 24
11/18/77	13:32	13.75	1.40		239	3174	CODE 18
11/18/77	13:36	2.60	.33		240	3175	CODE 27
11/18/77	13:44	7.67	.20		241	3176	CODE 12
11/18/77	END OF SHIFT AT 13:52						

MODULE 1 = PROJECTILE PLACING STA

STATION 401 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/15/77	09:20	09:52	32.00	.31	1	1	PROJ HUNG ON PLACER CONV
11/15/77		10:22	12.67	.42	2	2	PROJ HUNG ON PLACER CONV
11/15/77		10:40	17.58	.62	3	3	PROJFC HUNG ON PLACFR CONV
11/15/77		11:09	28.38	1.55	4	4	PROJ HUNG ON PLACER CONV
11/15/77		11:24	13.45	.31	5	5	PROJ HUNG ON PLACER CONV
11/15/77		11:33	8.67	1.42	6	6	PROJ HUNG ON PLACER CONV
11/15/77		15:17	175.58	.25	7	7	PROJ HUNG ON PLACFR
11/15/77			END OF SHIFT AT 15:53				
11/16/77	07:58	07:59	36.75	7.25	8	8	PLACFR LOWERED PROJ W/O PALLET
11/16/77		11:09	138.75	.58	9	9	PROJ HUNG ON PLACER CONV
11/16/77		12:37	55.42	.25	10	10	PROJ HUNG ON PLACER CONV
11/16/77		13:12	34.75	.45	11	11	PROJ DIDNT MAKE LIMIT SWITCH
11/16/77		13:25	12.55	.42	12	12	PROJ DIDNT MAKE LIMIT SWITCH
11/16/77		13:43	17.58	.58	13	13	PROJ HUNG ON PLACER CONV
11/16/77		13:47	3.42	.42	14	14	PROJ DIDNT MAKE LIMIT SWITCH
11/16/77		13:53	5.58	1.25	15	15	PROJ DIDNT MAKE LIMIT SWITCH
11/16/77		14:19	7.75	1.58	16	16	PROJ HUNG ON PLACER CONV
11/16/77		14:37	16.42	1.17	17	17	PROJ DIDNT MAKE LIMIT SWITCH
11/16/77		15:10	31.83	.31	18	18	PROJ HUNG ON PLACER CONV
11/16/77		15:32	21.67	1.75	19	19	PROJ DIDNT MAKE LIMIT SWITCH
11/16/77		15:43	9.25	.58	20	20	PROJ DIDNT MAKE LIMIT SWITCH
11/16/77		15:48	4.42	.78	21	21	PROJ DIDNT MAKE LIMIT SWITCH
11/16/77			END OF SHIFT AT 15:58				
11/17/77	08:00	08:38	47.22	1.83	22	22	PROJ HUNG ON PLACER SWITCH
11/17/77		08:53	13.17	2.17	23	23	PROJ HUNG ON PLACFR SWITCH
11/17/77		09:11	15.83	.67	24	24	PROJ HUNG ON PLACER SWITCH
11/17/77		09:25	13.33	.55	25	25	PROJ HUNG ON PLACER SWITCH
11/17/77		09:41	15.45	.92	26	26	PROJ TURNED SIDEWAYS ON CONV
11/17/77		10:31	31.08	.25	27	27	PROJ HUNG ON PLACFR CONV
11/17/77		10:42	10.75	.30	28	28	PROJ HUNG ON PLACER CONV
11/17/77		10:53	10.70	.58	29	29	PROJ HUNG ON PLACFR CONV
11/17/77		10:56	2.42	.67	30	30	PROJ HUNG ON PLACER CONV
11/17/77		11:05	8.33	.30	31	31	PROJ DIDNT MAKE LIMIT SWITCH
11/17/77		11:11	5.70	.58	32	32	PROJ HUNG ON PLACER CONV
11/17/77		11:17	5.42	.45	33	33	PROJ HUNG ON PLACFR CONV

MODULE 1 = PROJECTILE PLACING STA (CONTD) STATION 401 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/17/77		11:36	18.55	1.33	34	34	PROJ DIDNT MAKE LIMIT SWITCH
11/17/77		11:50	12.67	.83	35	35	PROJ DIDNT MAKE LIMIT SWITCH
11/17/77		13:05	41.17	1.33	36	36	PROJ COCKED SIDEWAYS ON CONV
11/17/77		14:47	82.67	.80	37	37	PROJ FAILED TO MAKE LIMIT SWITCH
11/17/77		15:38	50.20	.58	38	38	PROJ COCKED SIDEWAYS ON CONV
11/17/77		15:40	1.42	.42	39	39	PROJ FAILED TO MAKE LIMIT SWITCH
11/17/77		15:47	6.58	2.67	40	40	PROJ FAILED TO MAKE LIMIT SWITCH
11/17/77		15:54	4.33	.30	41	41	PROJ FAILED TO MAKE LIMIT SWITCH
11/17/77		END OF SHIFT AT 15:57					
11/18/77	08:00						
11/18/77		08:15	17.70	3.00	42	42	PROJ FAILED TO ROLL PROJ STACKED
11/18/77		09:04	46.00	.50	43	43	PROJ FAILED TO MAKE LIMIT SWITCH
11/18/77		12:45	169.50	2.17	44	44	PROJ DIDNT MAKE LIMIT SWITCH
11/18/77		END OF SHIFT AT 15:39					

MODULE 2 = FORWARD PLATE + ORIENT STA

STATION 402 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBFR	SYSTEM FAILURE NUMBER	FAILURE MODE
11/15/77	08:01						
11/15/77		08:12	11:00	.53	1	45	PALLFT HUNG ENTERING
11/15/77		08:15	2:47	.50	2	46	PALLFT HUNG LEAVING
11/15/77		14:18	296:50	1:09	3	47	PALLET HUNG ENTERING
11/15/77			END OF SHIFT AT 15:55				
11/16/77	07:58						
11/16/77			END OF SHIFT AT 15:58				
11/17/77	08:00						
11/17/77		09:50	592:92	.83	4	48	ADJUST PALLET PRESSURIZATION FIXTURE
11/17/77			END OF SHIFT AT 15:57				
11/18/77	08:00						
11/18/77		09:44	401:17	.42	5	49	PROJ NOT LINED PROPERLY
11/18/77		14:22	277:58	.33	6	50	RELEASE PRESSURE MANUALLY
11/18/77			END OF SHIFT AT 15:39				

MODULE 3 = M42 LAYER 1 INSERTION

STATION 403 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBFR	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77	08:05	08:31	26.00	1.47	1	51	SHOT PIN STUCK UP WOULD NOT EJECT PALLET
12/05/77		12:58	265.53	6.80	2	52	
12/05/77			END OF SHIFT AT 16:00				
12/05/77							

12/06/77	08:05	END OF SHIFT AT 16:00					
12/06/77							

12/07/77	08:05	END OF SHIFT AT 16:00					
12/07/77							

12/08/77	08:00	08:05	1099.48	.70	3	53	PALLET WOULD NOT RELEASE
12/08/77			END OF SHIFT AT 16:00				
12/08/77							

12/09/77	08:00	END OF SHIFT AT 15:30					
12/09/77							

MODULE 4 = M42 LAYER 2 INSERTION

STATION 404 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBFR	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77	08:05	08:33	28.00	.75	1	54	PALLET STUCK PALLET DID NOT ALIGN PROPERLY
12/05/77		11:27	158.25	.65	2	55	
12/05/77			END OF SHIFT AT 16:00				
12/05/77							

12/06/77	08:05	END OF SHIFT AT 16:00					
12/06/77							

12/07/77	08:05	END OF SHIFT AT 16:00					
12/07/77							

12/08/77	08:00	END OF SHIFT AT 16:00					
12/08/77							

12/09/77	08:00	END OF SHIFT AT 15:30					
12/09/77							

MODULE 5 = M42 LAYFR 3 INSERTION

STATION 405 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77	08:05						
12/05/77		09:07	62.00	2.55	1	56	RAN PICKED UP SHELL
12/05/77		14:37	267.45	1.97	2	57	RAM PICKED UP SHELL - RIBBON
12/05/77			END OF SHIFT AT 16:00				

12/06/77	08:05						
12/06/77			END OF SHIFT AT 16:00				

12/07/77	08:05						
12/07/77			END OF SHIFT AT 16:00				

12/08/77	08:00						
12/08/77			END OF SHIFT AT 16:00				

12/09/77	08:00						
12/09/77			END OF SHIFT AT 15:30				

MODULE 6 = M42 LAYFR 4 INSERTION

STATION 406 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/12/77	08:09						
12/12/77			END OF SHIFT AT 16:00				
12/13/77	08:01						
12/13/77			END OF SHIFT AT 16:00				
12/14/77	08:00						
12/14/77			END OF SHIFT AT 16:00				
12/15/77	08:00						
12/15/77			END OF SHIFT AT 16:00				
12/16/77	08:02						
12/16/77		12:58	1854.00	1.50	1	58	PALLET MISSALIGNED
12/16/77			END OF SHIFT AT 15:25				

STATION 407 AT KAAP

MODULE 7 = M42 LAYER 5 INSERTION

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBFR	SYSTEM FAILURE NUMBER	FAILURE MODE
12/12/77	08:09						
12/12/77							END OF SHIFT AT 16:00
12/13/77	08:01						
12/13/77							END OF SHIFT AT 16:00
12/14/77	08:00						
12/14/77							END OF SHIFT AT 16:00
12/15/77	08:00	13:34	1471.00	2.67	1	59	PROJ HUNG UP ON HEAD RETRACT
12/15/77							END OF SHIFT AT 16:00
12/16/77	08:02	11:14	305.33	3.62	2	60	PROJ JAMMED ON POWER
12/16/77							END OF SHIFT AT 15:25
12/16/77							

STATION 408 AT KAAP

MODULE 8 = M42 LAYER 6 INSERTION

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBFR	SYSTEM FAILURE NUMBER	FAILURE MODE
12/12/77	08:09						
12/12/77		09:37	88.00	1.27	1	61	PALLFT OVER RAN STOP AT MACHINE
12/12/77							END OF SHIFT AT 16:00
12/13/77	08:01						
12/13/77							END OF SHIFT AT 16:00
12/14/77	08:00						
12/14/77							END OF SHIFT AT 16:00
12/15/77	08:00	08:26	1148.23	1.20	2	62	PALLFT DID NOT STOP IN POSITION
12/15/77		14:56	328.80	.88	3	63	GRN CAME UP WITH SPIRAL PIN
12/15/77							END OF SHIFT AT 16:00
12/16/77	08:02						
12/16/77							END OF SHIFT AT 15:25

MODULE 9 = M42 LAYFR 7 INSERTION

STATION 409 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBFR	SYSTEM FAILURE NUMBER	FAILURE MODE
12/19/77	08:17						
12/19/77							
12/20/77	08:05						
12/20/77							
12/21/77	08:06						
12/21/77							
12/22/77	08:00						
12/22/77							

END OF SHIFT AT 16:00

END OF SHIFT AT 16:00

END OF SHIFT AT 16:00

END OF SHIFT AT 15:45

MODULE 10 = M42 LAYFR 8 INSERTION

STATION 410 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBFR	SYSTEM FAILURE NUMBER	FAILURE MODE
12/19/77	08:17	08:21	4.00	2.15	1	64	ADJUST AIR VALVE ON GRENADE RAM
12/19/77							
12/19/77							
12/20/77	08:05	13:14	645.85	.95	2	65	PALLET OUT OF ADJ PLUNGER PICKED UP
12/20/77							
12/20/77							
12/21/77	08:06						
12/21/77							
12/22/77	08:00						
12/22/77							

END OF SHIFT AT 16:00

END OF SHIFT AT 15:45

MODULE 12 = M46 LAYER 10 INSERTION

STATION 412 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/19/77	08:19						
12/19/77							
12/20/77	08:05						
12/20/77							
12/21/77	08:06						
12/21/77							
12/22/77	08:00						
12/22/77							

MODULE 11 = M46 LAYER 9 INSERTION

STATION 411 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/19/77	08:19						
12/19/77							
12/20/77	08:05						
12/20/77							
12/21/77	08:06						
12/21/77							
12/22/77	08:00						
12/22/77							

MODULE 13 = M46 LAYER 11 INSERTION

STATION 413 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/19/77	10:15					
12/19/77						
12/20/77	08:05					
12/20/77						
12/21/77	08:06					
12/21/77						
12/22/77	08:00					
12/22/77						

MODULE 14 = ADAPTER LAYER INSERTION

STATION 414 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77	08:00	08:47	47:00	.50	1	66	PALLFT JAMMED ENTERING STATION
11/28/77		12:51	197:50	.92	2	67	PALLFT JAMMED ENTERING STATION
11/28/77							
11/28/77							
11/29/77	08:00	08:16	189:08	.47	3	68	PALLET JAMMED ENTERING STATION
11/29/77		10:19	107:53	.83	4	69	PALLFT HUNG LEAVING STATION
11/29/77		13:10	140:17	.50	5	70	PALLET HUNG LEAVING STATION
11/29/77							
11/30/77	08:00	14:27	473:50	.42	6	71	PALLFT HUNG ENTERING STATION
11/30/77		14:31	3:58	.25	7	72	PALLFT HUNG ENTERING STATION
11/30/77							
11/30/77							
12/01/77	08:00						
12/01/77							
12/02/77	08:00	13:07	770:75	.47	8	73	PALLFT HUNG ENTERING STATION
12/02/77							
12/02/77							

MODULE 15 = SHIM INSERTION + GAGING

STATION 415 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77	08:00						
11/28/77							
11/29/77	08:00						
11/29/77							
11/30/77	08:00						
11/30/77							
12/01/77	08:00						
12/01/77							
12/02/77	08:00						
12/02/77							

MODULE 16 = BASE PLUG TORQUE STA

STATION 416 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77	08:00						
11/28/77							
11/29/77	08:00						
11/29/77							
11/30/77	08:00						
11/30/77							
12/01/77	08:00						
12/01/77							
12/02/77	08:00						
12/02/77							

MODULE 17 = PROJECTILE REMOVAL STA STATION 417 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/19/77	08:25	08:26	1.00	8.18	1	74	TRANSFER UNLOADER WOULD NOT CLAMP
12/19/77			END OF SHIFT AT 16:00				
12/20/77	08:05		END OF SHIFT AT 16:00				
12/21/77	08:06		END OF SHIFT AT 16:00				
12/22/77	08:00	11:20	1189.88	1.13	2	75	PALLFT HUNG IN OFF TRANSF STA
12/22/77			END OF SHIFT AT 15:45				

MODULE 1A = ZONE WFI GH STATION STATION 501 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/27/77	08:11		END OF SHIFT AT 16:00				
12/28/77	08:00		END OF SHIFT AT 16:00				
12/29/77	08:03		END OF SHIFT AT 16:00				
12/30/77	08:05		END OF SHIFT AT 16:00				

MODULE 19 = STENCIL M483A1 1 STATION 502 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/27/77	08:11						
12/27/77							
12/28/77	08:00						
12/28/77							
12/29/77	08:03						
12/29/77							
12/30/77	08:05						
12/30/77							

MODULE 20 = LIFTING PLUG TORQUE STA. STATION 503 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/27/77	08:11						
12/27/77							
12/28/77	08:00						
12/28/77							
12/29/77	08:03						
12/29/77							
12/30/77	08:05						
12/30/77							

MODULE 21 = LEAK TEST STATION

STATION 504 AT KAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/27/77	08:11						
12/27/77				END OF SHIFT AT 16:00			
12/28/77	08:00						
12/28/77				END OF SHIFT AT 16:00			
12/29/77	08:03						
12/29/77				END OF SHIFT AT 16:00			
12/30/77	08:05						
12/30/77				END OF SHIFT AT 16:00			

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